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GIFT OF

JAMES STURGIS PRAY

CHARLES ELIOT PROFESSOR OF LANDSCAPE ARCHITECTURE

JULY 11, 1916

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Cambridge, Mass.

THE MAGAZINE
OF
HORTICULTURE,
BOTANY,

AND ALL USEFUL DISCOVERIES AND IMPROVEMENTS IN
RURAL AFFAIRS.

"Je voudrais échauffer tout l'univers de mon gout pour les jardins. Il me semble qu'il est impossible qu'un méchant puisse l'avoir. Il n'est point de vertu que je ne suppose à celui que aime à parler et à faire des jardins. Pères de famille, inspirez la jardinomanie à vos enfans."—*Prince De Ligne*.

VOL. XVI.,
1850.
(VOL. VI., NEW SERIES.)

EDITED BY C. M. HOVEY.

BOSTON:
PUBLISHED BY HOVEY AND CO., MERCHANTS ROW.
1850.

Sci 1621.44

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Sep. 17. 1913

Cl t of

Prof. J. S. Pray

PREFACE.

THE Sixteenth Volume of the Magazine will be found as interesting as any which have preceded it. An unusual number of valuable original articles has appeared, upon all the various departments of Gardening. The Pomological Intelligence of the year will be found more full and complete than we have ever before given.

In order to give a larger circulation to the Magazine, and bring it within the reach of a larger class of readers, the price has been reduced to two dollars a year. Already we are glad to record the good results of the change, and we trust our labors will continue to enlist the aid of every friend of Horticulture or Rural Improvement.

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THE MAGAZINE OF HORTICULTURE.

JANUARY, 1850.

ORIGINAL COMMUNICATIONS.

ART. I. *A Retrospective View of the Progress of Horticulture in the United States, during the year 1849.* By the EDITOR.

FIFTEEN years having now elapsed since the first publication of the Magazine, a brief review of the progress of Horticulture during that period, and the influence it has continued to exert in its behalf, may not be out of place. How great and rapid has been the advancement of the art of cultivation during that period! If we look back and compare the variety of fruits and vegetables which were to be found in our gardens, fifteen years ago, with those which now fill our collections, how striking the difference! From the few foreign productions which were then to be found only in the gardens of amateurs, have sprung into existence, through the skill of our cultivators, hundreds of beautiful flowers and delicious fruits, which are now spread over the whole country. From the single wild-rose, which luxuriates on our western prairies, have been reared the double and brilliant varieties which already ornament every garden. From the single camellia have been raised exquisite seedlings, equalling those of Chinese origin, and surpassing all that Europe, for nearly half a century, and with the aid of the most skilful cultivators, had been able to produce. From the half a dozen pears which then made up the sum of American varieties worth growing, more than fifty now enrich our collections.

So, too, with the apple,—the peach,—the cherry,—the plum,—the strawberry, and even our native grape. And we may properly ask, without being charged with an over-favoritism for our native productions, where, among the thousands of fruits which, up to the present moment, have been produced, are to be found any which will surpass the Swan's Orange Pear, the Northern Spy Apple, the McLaughlin Plum, the Early Crawford Peach, the Sweet Montmorency Cherry, the Hovey's Seedling Strawberry, or, for general culture, the Diana Grape? all of which have been produced or brought to notice during the past fifteen years, and, most of them, first described or figured in the several volumes of the Magazine.

But it is not in the *production* of new flowers or fruits that there has only been such rapid advancement; in the art of *cultivation* there has been equally great and marked improvement. Plants which were once only found under the management of scientific gardeners, and supposed to be beyond the reach of ordinary skill, are now easily grown by every judicious cultivator; and fruits, whose routine of treatment, whether by artificial or ordinary means, had always been within the peculiar province of the practical man, are now successfully produced by every attentive amateur. Not that we would argue that preëminence in the art of culture does not require unremitted exertions on the part of all who would attain it, but that a degree of success may be arrived at by all who are willing to read and practise.

Such has been the progress of art and science for the last fifteen years. It has been our duty to record this progress from year to year, and to chronicle all the events which have taken place in the world of horticulture during that period. How faithfully we have done this, we leave to others to decide; but with an enthusiasm nothing lessened after the labors of so long a time, we shall endeavor to go on as we have in years past, making our pages a true transcript of horticultural progress, and the results which follow from the more extended love of its pursuit.

The year just passed was, in many respects, a peculiar one.

For the first time for many years, and beyond the recollection of most persons, there was almost an entire failure of the crop of apples and pears, hardy fruits, which usually resist the most severe cold and sudden changes of weather; but to what cause this can be attributed is yet unknown. Our correspondent, Mr. Cabot, of Salem, in an article in a future page, has offered some remarks upon this subject, and suggested whether it was not the warm weather of December, 1848, followed by severe cold, which produced such disastrous results; and though we have no positive facts by which we can deny that to have been the cause, still, more information is wanted before we can admit the conclusions he has arrived at. But, as some aid to this end, we shall recapitulate the changes of the weather through the year, as deduced from our own observations.

Just as we were sending to press the matter for our annual summary of 1848, (Dec. 16,) the weather was unusually mild and pleasant for the season, with the thermometer at 50° ; but, although we carefully inspected various trees in different parts of the nursery, we could not see that the buds were any more swollen than usual. On the 28th of December, snow fell, succeeded by cold so severe that the mercury fell to zero on the morning of the 24th. On the 27th and 30th, snow again fell, to the depth of one foot.

January was not less severe. It opened with the temperature at 2° above zero; on the 2d, 8° below; the 3d, 4° above; and continued cold to the 10th, when it again sunk to zero; falling still further, on the 11th, to 11° below, and the 12th, to 6° below. Rain fell on the 13th, succeeded by a warm day on the 14th. But, on the 19th, the temperature again sunk to 4° below zero; became warmer on the 21st, and then changed to cold, and continued so to the end of the month.

February was a very cold month. Snow fell on the 1st, 2d and 5th, but on the 8th the thermometer indicated 10° below zero again; 4° below on the 10th; 6° below on the 13th; 2° below on the 14th; 6° below on the 15th; and 12° below on the 16th, which was the lowest point it reached, at

Cambridge, during the winter ; again, on the 19th, 4° below zero ; 20th, 10° below ; and the 21st, 6° above ; after which it became milder, and the snow began to thaw rapidly.

The month of March was milder. On the 2d, song sparrows were heard for the first time, and the snow continued to wear away ; the 5th was cool, with the temperature at 6° ; on the 7th, robins made their appearance, and after this it gradually became warmer, with rain, so that the frost was nearly out of the ground on the 19th. From the 24th to the 31st it rained incessantly.

April opened favorably, and the 4th was a very warm day. On the 12th it became cooler, and on the 15th the temperature was as low as 20° , with a hard frost ; the 16th it was the same, (20° ,) and it continued cool to the end of the month. May commenced with the thermometer at 78° , and continued mild and fair till the 13th, when a light rain fell, succeeded with cool and pleasant weather again. On the 20th, the pear trees were in bloom ; the 21st, the thermometer reached as high as 88° . The last week was chilly, with east winds and some rain, but free from frost. June began with heavy showers on the 1st and 4th, after which no rain fell until the 29th, and then but just sufficient to damp the soil. The whole month was warm, and the 22d was the hottest day in the year, the temperature rising to 102° in the shade. July continued warm and dry, and vegetation suffered severely. On the 13th, the thermometer was 101° , and the month continued hot and excessively dry throughout. August continued the same, until the 6th, when there was a light shower ; succeeded, on the 11th and 13th, by heavy rains, the first to revive vegetation since the 4th of June. The remainder of the month was pleasant and showery.

September was cool and favorable, with showers. October opened with a severe storm, succeeded by others on the 7th, 10th, and 28th. The first frost to injure dahlias and tender plants was on the morning of the 15th. From this to the close of the month the weather was fine for the season. The 1st of November was cool, with the temperature at 24° ; this was followed by cold mist and rain from the 5th

to the 10th, and again on the 19th and 20th, when a great quantity of rain fell. With the exception of the heavy rains, the month was very favorable to out-door operations. December began with the temperature as low as 10° on the 2d, with a light snow on the 3d, and continued moderate, with occasional squalls of snow, up to the present date (20th).

The season, with the exception of the drought of June and July, appears to have been favorable to the growth of fruit trees; the fall having been prolonged and mild, the wood has ripened finely; and, recovering their strength by having no crop, they are filled with flower-buds. Should the winter be favorable, a great crop will undoubtedly reward the cultivator the coming year.

It is somewhat remarkable that the failure of the fruit crop, the last year, should have been so general. We conversed with gentlemen from almost every State in the Union, at the Pomological Conventions, last autumn, and they all complained of the scarcity of fruit,—particularly of apples and pears. It is the more remarkable, from the fact that the failure was not produced by the same causes. In the south and west, late spring frosts destroyed the blossoms.

The principal supply of apples has been obtained from northern New York, and Maine, where the crop was nearly an average one. Peaches were abundant in high and exposed localities, throughout the State. The crop of grapes was large and excellent.

HORTICULTURE.

The subject of Pomology, just now attracting so much attention, has had its full share of space in our last volume. Many of the choicest varieties of pears, apples, plums, &c., have been figured and described; and among them several which have been for the first time made known to cultivators. The scanty crop, however, has prevented, for a season, an opportunity to figure and describe some new sorts, which have been so highly extolled abroad that amateur cultivators are anxious to see specimens of the fruit, that they may be able to learn whether they fulfil the expectations which have

been formed of them, or possess qualities which will commend them to a place in their collections.

The two conventions which assembled in 1848 have again held a second session the past autumn; but the proceedings of neither of them have yet been published, and we have therefore not been able to give a full summary of their doings. The lists of fruits adopted for general cultivation by each meeting have, however, been given, (pp. 466, 513.) It must be gratifying to every pomologist, who feels an interest in the subject, to know that the two conventions have eventually formed a union, and that after 1851 only one convention will be holden, and that only in alternate years. This will effect all that the most ardent cultivator could wish; for it must be admitted that annual meetings would leave so little to do, that it would scarcely repay the loss of time and expense which would necessarily attend the assembling of so large a number of gentlemen from all parts of the country. The harmony which seemed to prevail at both conventions, and the manifest desire for their union expressed by the members of each, shows how general was the feeling that one National Convention would be sufficient to accomplish all the objects for which they were called together.

The cultivation of the grape, and the formation of vine-borders, has been considerably discussed in our last volume, and much valuable information elicited. The excellent article of Mr. Leuchars, (p. 110,) and the actual experiments which he has adduced in corroboration of his practice, must be satisfactory to every grape-grower. Our own views have been fully expressed (p. 75) in a review of Mr. Allen's treatise; and Mr. Hutchinson's excellent article (p. 540) further confirms all we had previously advanced in relation to the proper materials for the formation of borders.

Some excellent hints on pruning have appeared in our last volume; the most complete, as well as the most general, being that by Mr. Robert Thompson, (p. 49,) which formed the results of his tour among the French gardeners and nurserymen, made by the express order of the London Horticultural Society. They will bear repeated perusal by all who de-

sire to acquire a thorough knowledge of the management of dwarf, pyramidal, or espalier trees. Mr. Leuchars has given some general views on pruning, (p. 436,) and the proper season for performing this operation, which deserve attention; and to aid several of our amateur friends, who have made repeated inquiries of us, as to our mode of pruning pyramidal pear trees, we have thrown out a few hints (p. 300) which we trust have answered the purpose for which they were intended. We need scarcely repeat, what we have already stated, that these were but preparatory to a full elucidation of the subject in the present volume.

We have incidentally alluded to the subject of special manures, but have not deemed it advisable to adopt the views of some theorists, who would have cultivators believe that the exact quantity or kind of manure or substance any species and variety of tree must have, to bring it to perfection, may be readily told by the aid of the crucible. The wood of the pear, or the grape, has but to be burned, and the ashes analyzed, when, *presto*,—the very condiments, even to the proper portion and mixture in bushels and quarts, is at once as quickly pointed out as a magician would change his balls into specie. That special manures have their uses, and may be brought to the aid of the cultivator in some degree, we certainly should be the last to doubt; but how they are to be applied, through what agencies they are brought to act, and whether an analysis of the wood will show what substances make the ~~FRUIT~~, are questions not yet decided, and are not likely soon to be satisfactorily ascertained. Mr. Tudor, of Nahant, a gentleman devoted to the subject of experimental culture, has shown, by his own experience the past year, (p. 524,) that the very largest and finest fruit can be obtained simply by the use of pure rain water alone, the ground being previously well enriched with stable manure; and, until we have as good results from "special manures," we shall not advise the cultivator to throw aside stable dung and guano for such compounds as peat and ashes.

But the latest and certainly most ingenious theory is that in relation to the cause of the cracking of the old White Doyenné (or St. Michael's) pear. The odd notion of diseased

stocks is thrown aside to make room for a new one, certainly not less odd ; and Mr. Downing tells us, with as much dignity as he asserted the hermaphrodite character of Hovey's Seedling Strawberry,—when he sent the dozen pots of *spurious* plants to the Massachusetts Horticultural Society,—that the sole cause of the cracking of the Doyenné pear is from the fact that the soil is exhausted of its mineral substances ; and that a bushel of peat, half a bushel of wood ashes, and a few bones, with perhaps a little iron, will quite renovate a tree. This theory may answer very well for new beginners in gardening ; but every practical man knows that, in Boston, the White Doyenné and Brown Beurré are produced in greater perfection, at the present moment, than even in Western New York, where their excellence is attributed to the newness of the soil ; and yet the same trees which produce such fine pears here, have been growing more than half a century in the same spot, and in some instances under a *paved yard*, where the exhaustion of the soil must have been complete, from the inconvenience and apparent unimportance of supplying manure or other matters to the soil, the fruit being always abundant and excellent. The “exhaustion” theory has full as much tenability as that of “diseased stocks,” and at another time we shall revert to this subject at greater length, in confirmation of our opinion.

The very few fruits of which we can give any information from the experience of the year, are as follows :—Swan's Orange has fruited around Boston in several collections, and proves all that we have said of it ; Knight's Monarch has also proved to be a fine acquisition ; the Howell, and Pratt, excellent ; Belle apres Noel, fine ; Josephine de Malines, and Beurré Goubault, promise well ; Brande's St. Germain, very fine. Another year's experience of the McLaughlin plum proves it to be nearly or quite equal to the Green Gage ; the Reine Claude de Bavay has fruited, and promises well ; Decan's Superb grape, handsome and good ; and the Diana, one of the most valuable acquisitions which has yet been made to our native grapes. Some other fruits which have come under our notice will be mentioned in our “Pomological Gossip.”

FLORICULTURE.

Some capital articles have been contributed to our last volume, the most important of which are upon the Lisianthus, (p. 72,) Calceolaria, (p. 174,) Guava, (p. 35,) Heaths, (p. 215,) Clerodendrons, (p. 254,) Daphne, (p. 257,) Fuchsia, (p. 263,) Pansy, (p. 304,) and Ranunculus, (p. 356.) Each of these form complete treatises, which cannot fail to afford the young amateur the most valuable aid in the management of these plants. Our general notices have also contained the essence of all that has been found in the foreign journals which could in any way facilitate the operations of the garden. Under the head of General Notices, in the Table of Contents, they may be referred to, and it will be unnecessary to repeat them here.

In our volume for 1848, (XIV. p. 34,) we gave our readers an article on the cultivation of the beautiful Japan lilies, and we then stated that they would probably be found quite hardy in our climate. Another year's experience has proved them to be as easily and certainly grown in the open ground as the common white lily; and they will eventually become as common ornaments of the garden as that old variety. The past autumn we planted a bed containing upwards of three hundred bulbs of the four different kinds, with some of our own seedlings; and, the coming summer, we anticipate a brilliant show during the months of August and September. The hardiness of these lilies greatly enhances their value; for, although they will always be among the most beautiful plants for cultivation in pots, for ornamenting conservatories, greenhouses and verandahs in summer, their hardiness will enable all to enjoy their beauty who have not such places to ornament, or who do not wish the trouble of their culture in pots.

The new plants of the year have not been very numerous or very remarkable. A few of the new Phloxes were fine, more particularly Triumphator, Robert de Flandres, Camille, Thesé, Arsinoe, and Beppo. These we shall describe, with several other new ones, in another number. The finest

plants have been *Hénfeya scándens*, *Plumbàgo Larpéntæ*, *Adámia cyànea*, *Hindsia longiflòra* and *violàcea*, *Tropæolum Lobbiànnum* (very beautiful), *Gloxinia Teuchleri*, *Scutellària Ventenati*, *Fúchsia spectàbile*, *Gardènia Fortùni*, *Zauschnèria californica*, *Heliotrope Souvenir de Liege*, *Robinson's Defiance Verbena*, &c. The principal additions of new plants are now made through the exertions of the collectors of the London nurserymen, maintained at their own expense.

We should not, perhaps, omit to mention the hollyhock, which is now, and justly, attracting so much attention abroad. As a showy border-flower for large gardens it is especially suited; and, now that so many beautiful and distinct seedlings have been produced, they demand a place even in a very limited collection. During the last year or two, the English gardeners have commenced giving names to some of their choicest seedlings, so that they may be perpetuated by propagation. The Massachusetts Horticultural Society have enhanced the prizes for this flower the present year; and this, we trust, will lead to greater competition, and, in the end, to the production of very much improved varieties. Some excellent hints on their propagation, &c., will be found at p. 555.

ARBORICULTURE.

The taste for ornamental planting, and the desire to possess the new and fine kinds of the *Coniferæ*, is rapidly increasing, and the catalogues of our nurserymen now include many of the best species and varieties which are likely to prove hardy in our climate. We have copied much information on this head from our foreign papers, and the amateur planter will find the different papers worthy of careful perusal. We have also noted some of the *Pinuses* which have already proved hardy here, and we shall continue to add to the list all which succeed as far north as latitude 42°. *Cèdrus Deodàra* proved perfectly hardy, the last severe winter, without the least protection; and we have no doubt, if the location is favorable, it will prove as hardy as our native hemlock. *Abies Smithiàna* is a fine hardy species; as is

also *Pinus austriaca*, which should be found in every collection of evergreen trees. The celebrated funeral Cypress, of which we gave so favorable an account, (p. 271,) has been introduced, but the rareness and high price of the plants will prevent a trial of its hardiness till another year. The same remark also applies to *Cryptomeria japonica*, which we have not yet planted out in the open ground.

The American Holly, (*Ilex opaca*), which grows abundantly on the coast of Massachusetts, at Cohasset and New Bedford, is a tree deserving more attention at the hands of nurserymen and planters than it has yet received. Hardy as the oak, and with a thick and glossy foliage of the texture of the camellia, it would form one of the most splendid evergreen trees to be procured,—surpassing the English holly, which is so generally cultivated and admired every where in England. The young plants may be raised in great quantities from the seed, which are abundantly produced, and their cultivation would be attended with a good demand for all that could be raised.

The evergreen trees of California, which we have before alluded to, are among the finest species that are known to be indigenous to this continent. Already most of them have been introduced to England through the exertions of the collectors sent out to that country; and with the facilities that will soon be afforded, through the tide of emigration to that golden region, we hope they may be soon added to the limited number which we already possess. Our correspondent, W. R. Prince, Esq., now on a tour to California, has already collected many specimens of trees and shrubs entirely new, which he has forwarded to his nurseries at Flushing, L. I. If our nurserymen would only secure the transmission of bushels of cones of the *Pinus Fremontiana* and others, but a few years would elapse before they would be growing side by side with the Deodara cedar and Norway spruce.

In our last volume (p. 145) we gave a list of fifty select flowering shrubs, and in the present one we hope to give a similar list of the most desirable ornamental trees. Gen. Dear-

born's excellent papers on our indigenous trees we hope also to continue in the present volume.

CEMETERIES.

It is gratifying to see such an increasing interest felt in the establishment of cemeteries. So general have they become, that, while fifteen years ago only those of Laurel Hill and Mount Auburn were laid out, now many of the principal cities and towns throughout the country possess such burial places, or are about appropriating suitable lots of ground for that object. The city of Boston, at last awakened to the importance of the subject, and with a view to prevent further interments within the city, is about purchasing a spot of ground, in some of the neighboring towns, suitable for the purpose of a cemetery, and a committee have already reported upon the matter. Roxbury, with Gen. Dearborn at the head of the city government, has set a noble example for other towns; and the Forest Hills Cemetery, projected by Gen. Dearborn, and laid out under his care, redounds to his credit even more than Mount Auburn, which owes all but what nature gave it, to his taste and judgment as a landscape artist.

In Cincinnati, the Spring Grove Cemetery has been greatly improved since it was first opened, a year ago; and, from a report which has been sent us by our correspondent, Mr. Ernst, appears in a flourishing condition. We refer to a short notice of it, by Mr. Ernst, accompanied with some fitting remarks on the establishment of cemeteries, in a future page.

It only remains for us to urge upon the proprietors of cemeteries the importance of planting trees adapted to such places. There is much difference in their appropriateness for such situations; and we intend to give a list of such as, from the associations connected with them,—their beauty, size, and other characteristics,—are best suited for burial-grounds. Almost every proprietor of a lot has a desire to grade and ornament it with trees and shrubs; but from the want of a little reflection, and without any knowledge of what is most

appropriate, often injures the appearance of the grounds, and is, after a few years, under the necessity of cutting down and planting anew. The greatest error is in not setting out more evergreen shrubs, such as *Kalmias*, *Rhododendrons*, &c.

COMMERCIAL GARDENING.

There is but little change to note in commercial gardening. The demand for trees continues active, and the various nurseries appear to improve in the arrangement and good keeping of their grounds. The onward progress of horticultural art demands more of system than has hitherto obtained among the majority of nurserymen; and, as a good reputation is the most valuable capital he can possess, it becomes an object of some importance to obtain it. In consequence of this, we now find in every good nursery plantations of bearing trees, and specimens of beautiful shrubs, for the inspection of the purchaser and the information of the proprietor. Without such, it would be almost impossible, at the present day, to succeed.

The number of new fruits is rapidly increasing; and, although some of the older sorts have been struck off by the Pomological Congress, yet the accessions have been large, and the catalogue must continue to increase until an opportunity has been afforded to fully test their qualities; but, as this is a work of time, it will require a long period before they can be placed on the rejected list. Nurserymen should feel it a duty they owe to themselves, as well as the public, to try all, and retain only the good. In this way many worthless varieties will be eventually discarded from cultivation.

In New York, Messrs. Prince, Parsons, Thorburn, Hogg, and Dunlap, have made additions to their establishments, Mr. Thorburn having erected a new house for the cultivation of roses.

Around Boston there is some improvement. Messrs. Hovey & Co. have just completed a very large and fine plant-house,—ninety-six feet long, thirty wide, and sixteen high,—and now nearly filled with plants. Our Horticultural Reports

will show the variety of flowers and fruits which are cultivated by our principal nurserymen.

HORTICULTURAL LITERATURE.

The year has been one of great dearth in literary productions. The only works have been a new edition of Thomas's *American Fruit Culturist*, enlarged and improved, which we shall notice in our next; *Transactions of the New York State Agricultural Society*, for 1848; Cole's *American Fruit Book*; a *Practical Treatise on the Management of Fruit Trees*, by Geo. Jacques; and three numbers of our *Fruits of America*, (Nos. 7, 8, and 9.) The three others, completing volume one, will appear in the course of the spring.

ART. II. *Observations upon the Season of 1849, with a Brief Review of some of the more Remarkable Varieties of Fruit which have been Introduced or Exhibited during the Year.* By Hon. J. S. CABOT, Salem, Mass.

A DISPOSITION to exaggerate the present seems to exhibit itself, more especially with respect to those occurrences of the seasons that appear, at the time, a departure from their usual routine. We are apt to think and speak of any great degree of heat or cold, moisture or dryness, as very unusual events, when a cursory examination of a record of the weather, for but a limited number of years, would probably show such as of constant recurrence. But making all due allowance for the manifestation of this disposition with respect to the vicissitudes of its seasons, the past year may properly be considered remarkable,—as to these vicissitudes have generally been attributed, either justly or unjustly, some very marked and unusual effects; and it has become a subject of inquiry, not uninteresting to horticulturists at least, to what one of its characteristics, or to what combination of its peculiarities, these effects should be ascribed. The absence of a sufficient number of facts forbids any very

satisfactory theory with regard to this matter ; and the most that is allowable is such a presumption as the facts in our possession will best warrant. A consideration of this subject, and other purposes, requires a brief epitome of the past year, including therein the last month of 1848, or rather the mention of some of its most noticeable characteristics.

The weather of December, 1848, until the 21st of that month, was very warm, especially from the 15th to the 20th, when a *Clématis Sieböldii* in my garden made new shoots more than two inches in length ; but on the 22d and 23d there was a snow-storm, and on the 24th it became very cold, the mercury on the morning of that day standing at 4° below 0.

In the course of January, 1849, the mercury fell to below 0 on three different mornings ; the lowest point reached (in this city) being 8° below on the morning of the 11th ; the mean of the whole month being 6° less than the mean of January, 1848.

The weather through February was very cold ; the thermometer at zero, or below, on six different times in the course of the month ; lowest, on the 16th, when the mercury fell (in this city) to 8° below 0, and in some places in the vicinity much lower. The ground, through both January and February, was generally covered with snow.

In March no very striking peculiarities were noticed.

The weather of April was cold and disagreeable. Ice was formed at six different times in the course of the month, and, as late as the 21st, the ground was frozen hard on the surface.

On the 12th of May there was a frost. But little rain fell during this or the preceding month, and both were distinguished by an almost uninterrupted succession of easterly winds, always prevalent at this season, of great violence.

June was warm, with some very hot weather from the 19th to the 24th. In the middle of each of those days, the mercury rose from 90° to 95° in the shade, and in some places reached 100°.

In July there was much very hot weather, and but little or no rain. With the exception of five very slight showers,

most of them scarcely sufficing to lay the dust, and none more than to moisten the surface of the earth, no rain fell (in this city) from the 5th of June until the 31st of July; a drought unusual so early in the season, and one that could hardly fail to produce very serious effects upon vegetation. On the 31st of July and 1st of August there were copious showers; and from that time to the present the rains have been frequent and abundant. The closing months of the year have been characterized only by the customary vicissitudes of the seasons, and the purposes in hand require no particular notice of them.

Early in the season, the numerous fruit buds gave promise of an abundant crop of apples and pears; but by the middle to last of May, appearances indicated that the trees, from some cause, had received serious injury. Their flower-buds opened weakly and imperfectly, or, as was more usually the case, withered and fell off without expanding. The foliage, too, of the fruit trees, when it did appear, was thin; and in some cases the shoots of the growth of the previous year were killed. An examination of the flower-buds of the peach and cherry, made at a much earlier period of the year, in February and March, indicated severe injury or destruction. Neither was the injury experienced wholly confined to the different species of fruit trees. The elms shew by their thin and weak foliage early in the season, and by the greatly diminished number of their seeds, that they had not escaped; while the common border-flowers, herbaceous plants and box edgings of the gardens, passed the winter more safely than usual.

The crop of apples and pears, through the State, and especially in the eastern part of it, may be said, from some cause, to have almost entirely failed; although, in some sections of it, to a limited extent, these fruits seem to have escaped injury. In the County of Berkshire apples are reported as abundant, and pears in Plymouth. A few gardens or orchards in the vicinity of Boston, and a single tree scattered here and there in various localities, furnished their usual supply of fruit; but these instances are but exceptions to the truth of the remark.

The peach trees in the vicinity of Boston were seriously injured, and the crop destroyed ; though in some places, not very remote, they seem to have escaped harm. In this city the peaches were entirely destroyed, and much of the last year's growth of the trees killed ; yet within a few miles to the northward, from trees standing, in two instances at least, on bleak and exposed hills, an abundant crop was gathered. In the interior of the State it is understood that the supply of this fruit was liberal.

The cherries were to a great extent destroyed. Plums were nearly or quite as abundant as usual. In the other States of New England, except Maine, and in New York, the apples, it is represented, failed, or produced much less than an average crop. In Maine, on the contrary, and in the British Provinces, it is said they were unusually abundant ; and while here and in this neighborhood the pears were so almost universally destroyed, it is stated that in Portsmouth and its vicinity there was never a better yield of that fruit.

For this general destruction of the fruit, though universally attributed to some of the effects of the previous winter, different specific causes have been assigned. Some persons have imputed it to the severe cold of the winter only ; others have regarded the late frosts of April, or the blasting influences of the very cold easterly winds of the spring, as the more immediate cause ; while still others, who were disposed to regard neither of these supposed causes as satisfactorily accounting for the various phenomena exhibited, have assigned to the combined effects of the warm weather of December, and the severe cold of the last of that month and of the succeeding January and February, the destruction experienced. Although it is not supposed that the cause last suggested will accord with the experience of every fruit-grower for the past season, but will leave some facts unaccounted for, yet it is believed that it will better correspond with effects generally witnessed than any other that has been suggested, leaving the explanation of such facts as militate with this supposition to be sought for in some peculiar circumstances of each case. With respect to these instances of

exemption from injury, as in the western part of this State, and in Maine, or of single trees and gardens in various places, such explanation may perhaps be found in the circumstance that the former did not feel the influence of the warmth of December, and the latter were in some way sheltered from the severe cold succeeding it; and the escape of the latter, too,—even the peach tree, usually most susceptible of injury,—may be owing, from a very cold and exposed situation, to their exemption from the exciting effects of unseasonable warmth. The cold of the past winter was not greater or of longer continuance than has been frequently experienced; neither were the frosts of the spring more severe or later in that season than have repeatedly occurred, without either being followed, heretofore, by such disastrous consequences; while such a combination of great warmth, followed so immediately by very severe cold, has, it is believed, rarely taken place.

The destruction of the fruit crop has caused a two-fold disappointment; for it has not only deprived us of our fruit and the pecuniary compensation arising from this branch of culture, but it has prevented or deferred for a season the testing, this year, as was confidently hoped and expected, of the quality of many of the new varieties of recent introduction. Scarcely any new pears, or other fruits of foreign origin, have been exhibited this year at the rooms of the Horticultural Society, or submitted for examination to its committees. At the annual exhibition of the society, a few pears were exhibited that have not, it is presumed, before produced fruit in this country. Among such are now remembered the St. Nicholas, from the Hon. M. P. Wilder; and Josephine of Malines, a variety in high repute in Europe, from the President of the Society, and Mr. Washburn, of Plymouth. So far as an opinion could be formed from tasting a single specimen, and that, perhaps, prematurely gathered from the tree, the former of these possesses valuable properties; the latter are not yet in maturity, and their quality has not, it is believed, yet been tested.

Another pear, that, though heretofore known in New York,

fruited for the first time in this vicinity the past season, deserves a particular notice, because it will, it is thought, from its size, beauty, reported productiveness, and good quality, prove highly desirable ; that is, the Swan's Orange or Onondaga pear. Specimens of this pear, grown in three different places,—though some of them were small and inferior, as was to be expected from trees bearing for the first time,—were all good ; and others, raised by W. F. Gardner, Esq., of this city, from grafts inserted on the top limbs of an old tree, (on the quince,) were of large size and great beauty,—equaling, in these respects, any brought from New York; and quite or very nearly of first quality. Further opportunities have, the past season, been afforded for trying “Knight's Monarch.” A single specimen of this variety was exhibited in 1846, by the Hon. M. P. Wilder ; but it was so small and indifferent, that that gentleman, at that time, though his doubts have since been set at rest, questioned its correctness. Others, raised by Messrs. Hovey, were exhibited in 1848. It is a juicy, melting, brisk, sub-acid fruit ; and, though it will never, in this country, be thought worthy of its European reputation, may be considered a desirable acquisition.

Although the season was so unpropitious to the production of a crop of apples and pears, yet some of the specimens of pears produced were of unusual size and beauty,—fully equalling, if not surpassing, anything ever before placed upon the tables of the Horticultural Society. Whether this superiority is to be attributed to increase of skill and attention to their cultivation, or to be sought for in other causes, no means are possessed for judging, though it is fair to presume that the former has essentially contributed to it. The same remark is no way applicable to the apples exhibited, that, on the contrary, have been generally inferior ; and it is a fact especially noticeable, that the apples have been, the past year, not only very few in number, but also,—probably owing to that very circumstance,—almost uniformly infested with the curculio.

Plums without a name, of very fine quality, were sent, the past season, to the rooms of the Horticultural Society, from

Maine. This variety was, it is presumed, the McLaughlin ; bearing a strong resemblance to the Green Gage in appearance, almost equalling that variety in excellence, and is one that will probably prove the best seedling plum yet produced.

While to most species of fruits the past season has been so uncongenial, to grapes cultivated in the open air it has seemed to be peculiarly propitious,—the different varieties of such having attained an unusual degree of perfection. Even the Black Hamburg has in some instances ripened its fruit in the open air. Sweetwaters have been free from mildew, and of unusual excellence ; and those of native origin, as the Isabella, have attained to perfect maturity with berries of a large size, deep color, and fine flavor. The absence of rain in June and July may account for this greater degree of perfection, and this exemption from blight or mildew to which the grape is so subject. Whether any analogy really exists between the mildew on grapes and the canker or blight on the St. Michael pear, is not known ; yet it was a subject for remark, that the St. Michael (White Doyenné) pears were, the past season, unusually fair. Perhaps some peculiar state of the atmosphere that causes the one may tend to produce the other ; and the exemption, wholly or partially, of both from certain effects may be attributed to the same cause.

After the experience of another year,—a year, too, peculiarly favorable to other varieties,—the Diana grape, a seedling raised by Mrs. Crehore, of Milton, seems to maintain its relative superiority over the other varieties of native origin. Notwithstanding its berries are small, and produced in small compact bunches, yet the sweetness of its berries, their freedom from that hardness of pulp and foxy taste so characteristic of American grapes, and other good qualities, justifies for it a claim of superiority ; and, with its earlier season of maturity, entitles the Diana to be considered as the best grape adapted to culture in the open air in New England that has as yet been produced.

A general statement, at the end of the year, in a periodical devoted to horticulture, of the weather of the season that has just closed, together with some notice of the horticultural

products of that year,—especially of any novelty that may have been introduced,—may be, on several accounts, desirable or advantageous. It would be, at least, convenient for subsequent reference, or for the purpose of future comparison. The preceding very imperfect summary of the past season is placed at your disposal, for such purposes as you may choose,—to be used or not, as you think proper.

Salem, December, 1849.

Such a communication scarcely requires comment from us. It is one of the most valuable retrospects of the year just past, either generally or pomologically considered; and that portion of it which discusses the peculiarities of the weather must furnish a subject of reflection to every cultivator. Such a disastrous year for fruit has not been known scarcely within the remembrance of that renowned personage, the “oldest inhabitant;” and it is important that all the facts which have any reference to it should be made known, that, if possible, the true cause of such destruction may be solved. And we hope that any of our correspondents, who can add anything to confirm what Mr. Cabot has advanced as the probable cause of the great injury to the buds of fruit trees, the last year, will communicate the same.

We have already alluded to the loss of the crop of fruit, (XV, p. 339,) and remarked that we “should not have the opportunity for at least a year” of testing many new varieties of pears. Still, there have been some fruits, not precisely fully proved, which have been produced in fine perfection, and some of them Mr. Cabot has briefly noticed. What gives us exceeding gratification is, to learn that he has so high an opinion of the Swan’s Orange pear. We have always felt confident it would sustain the high reputation we gave it, in our description, (Vol. XIII, p. 247,) as well as in our *Fruits of America*, notwithstanding some cultivators seemed unwilling to allow it to be anything more than a good pear.

In conclusion, we would hope that other amateur cultivators may be induced to give us the results of their experience

the past year. They need not shrink from doing so for fear they have nothing to communicate; every one is capable of adding something to our stock of information. It is only through such means that we can arrive at satisfactory results.—*Ed.*

ART. III. *A Chapter on Planting Trees.* By SAMUEL WALKER, Esq., President of the Massachusetts Horticultural Society.

1. It requires two persons to plant a tree properly.
2. The soil should be well prepared by deep trenching; pulverized and made rich by *compost* manure, before the planting is commenced.
3. The holes for receiving the trees should be sufficiently large to receive the roots *entire*, without bending or crowding them.
4. Trees should *never* be planted *more* than an inch deeper than they were in the nursery. *Deep planting is often fatal, and always injurious.*
5. All broken roots should be pared off smoothly with a sharp knife, on the under side.
6. The tree when planted, should be held-upright in the hole prepared to receive it, and the roots spread out into their *natural position*; the soil should then be *carefully introduced around and between all the roots and fibres, until the hole is completely filled up.*
7. After the tree is thus planted, press the soil gently, but firmly down with your foot. Water is not often necessary. If the season should be very dry, for some seven to ten days, after the planting in the Spring, one generous supply of rain or pond water, that has been exposed to the rays of the sun for some twenty-four hours, may be beneficial, if some litter or other such material is placed around the roots at the same time.
8. Trees planted in the Fall should not be watered,—the autumnal rains will be all-sufficient. Newly transplanted trees are like silk animals, they want care and attention;

—but little food, and no more water than will keep the soil moist. It should be borne in mind, that a tree can be *drowned, starved, surfeited, bruised*, and in other careless ways brought to an “*untimely end*,” or, what is worse, rendered “a cumberer of the ground.”

9. The Fall and the Spring are suitable periods for transplanting all kinds of Fruit and Ornamental trees. Evergreens succeed best when removed in the spring.

10. I should prefer to remove large trees in the fall, (although they generally do well when transplanted in the spring,) as the earth, during the winter, becomes settled about the roots, and they are ready to throw out fibres in the spring. A few leaves, or some litter, should be placed around the stem of the tree thus transplanted, and some stones put thereon, to keep the covering from being carried away by the wind. In June, the stones and litter may be removed.

11. The roots to large trees when transplanted, are not generally as long in proportion to their size, as to smaller ones; it is therefore best to take off a part of the top, to correspond in some measure to the loss of the roots.

12. When a tree has been a long time out of the soil, and becomes more or less dry,—it is well to bury the entire tree, “root and branch,” in the earth, bringing the soil into contact with every part of the plant, and let it remain buried for some seven to ten days. Some cloudy, or rainy day, take it up and plant it; this is much better than a cold bath for its roots, with the burning rays of the sun on its top, for twenty-four hours, as is sometimes prescribed.

Roxbury, Nov. 1849.

It gives us great pleasure to offer such advice from so good a source. Mr. Walker informs us in a note, that the above article was “drawn up for the particular use of a friend,” but upon a “second reading,” he thought it might meet the wants and wishes of many enquirers, and consequently sent us the “rough draft,” for such alteration, correction, and addition as we deemed advisable, to make it of sufficient interest to our readers.

It is unnecessary for us to say that we think the "rough draft" a good one, which we can safely recommend to the very careful perusal of all who are planting trees, whether new beginners, or those who have already had some experience in such operations, assured that they will not plant a tree afterwards with any less certainty of its doing well.

And now that Mr. Walker has so thoroughly gone over the whole ground and laid out the work, will not other cultivators come to his aid, and complete what he has so well begun. We have here Twelve Rules for Planting trees, and the next step is, that we should have at least Twelve Rules, for their Treatment after planting,—and even more; each kind of tree, as the pear, apple, plum, peach, &c., should have their management separately detailed, requiring, as they do in many respects, different pruning and treatment. We think we may promise our readers, that Mr. Walker has not done with the subject, for he never does a thing by halves; and we shall anxiously look for an article on the culture of the pear, which he so well understands, as one of the papers which will go to complete the work he has commenced.

We can name other friends, who we are sure will assist in such a good cause; and if our hint is not enough to draw them out, we shall be obliged to supply a part of the information from our own experience.—*Ed.*

ART. IV. *The Frederica Bremer Pear: a new native Seedling, with some Account of its Origin, and an engraving of the Fruit.* By Dr. W. D. BRINCKLE, Philadelphia.

At the Pomological Conventions at Syracuse and New York the last autumn, many new seedling pears, apples, plums, &c. were exhibited, some of which appeared to possess fine qualities, while a greater part of them were inferior fruits. At Syracuse we did not have time to examine them, owing to the short session, and the amount of labor to be

performed to finish up the proceedings at an early hour. But at New York, we were not so hurried for time, and having been upon the committee appointed to examine seedlings, we had all those of any promise brought immediately to our notice. The report of that committee, of which Dr. Brincklé was chairman, will probably appear in the published *Proceedings* of the Convention, when we shall notice it at length. We now have the pleasure of drawing the attention of pomologists and cultivators to one of the new pears which came before the committee, as will be seen by the following communication :—

MY DEAR SIR: Did you notice the Frederica Bremer Pear, at the recent Pomological Convention in New York? Was it not a native variety which the committee on seedling fruit passed by, on account of its being in an immature state? All I recollect concerning it is, that the owner handed me one, and requested me to keep it till it was in a condition for eating, and then try it. I ate it this day week, and found it to be a most delicious pear. Not being prepossessed much with its appearance, when I saw it at the convention, I neglected to make the necessary enquiries in regard to its origin, &c. But before it was cut even, its outward aspect became materially improved. Perhaps the enclosed outline (*fig. 1.*) and description, which I took on the 13th inst., from the specimen in my possession, may assist in recalling it to your recollection. Can you inform me by whom it was exhibited.

Fruit, above medium size, two and three quarter inches long, and two and a half broad: Form, obovate: Skin, of a smooth green color, (when seen at the Convention,) but when mature, of a fine clear yellow: Stem, one inch long, and one eighth of an inch thick, inserted somewhat obliquely in a slight cavity: Eye, small, closed, and set in a narrow basin: Flesh, white, fine, buttery and melting: Flavor, saccharine, and delicious: Seed, small, black. Ripe in October.—*Respectfully yours*, W. D. BRINCKLE, *Philadelphia*, Oct. 13, 1849.

This notice of this pear by Dr. Brincklé, came to hand just after we had made a drawing and description from another of the specimens, which was placed in our hands at the convention, by the same gentleman who requested Dr. B. to take one. We, like him, saw nothing in the pear of promising appearance, its very smooth, shining, dull green skin reminding us much of many poor pears, whose outward aspect was ex-

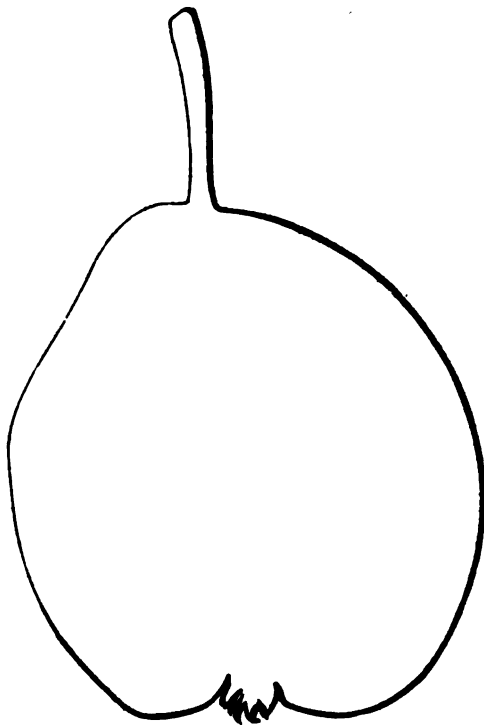


Fig. 1. Frederica Bremer Pear.

ceedingly similar, and although we laid the specimen aside for trial with many others, we did not do so with any expectation of finding it worthy of a description. But in the course of a week we found its appearance entirely changed; the green skin had now become of a fine citron hue, and upon a pressure of the thumb, its touch at once foretold the melting texture of its flesh; to our surprise, we found it a

very fine flavored and excellent pear, well worthy the character given it by Dr. Brincklé, whose description of it we have slightly amended, our specimen being more perfect than his.

We immediately requested our correspondent to keep us informed of any further information which he might procure, respecting its origin and history, and subsequently he favored us with the following account of it, obtained directly from the gentleman who presented the fruit for exhibition, Mr. J. C. Hastings, of Oneida County, New York :—

In regard to the Frederica Bremer Pear, I have received an interesting letter from Mr. Hastings, in which he says, "I sent samples of this pear, a year since, to the exhibition at New York. The samples sent this year were picked too early, and did not mature well. Owing to a severe drought, they did not obtain more than two thirds their usual size this season. I have been familiar with the pear for several years, and have had an opportunity of comparing it with many of the leading varieties which are classed by our Pomological Conventions as of first quality, and in my judgment, it will not suffer in comparison with many of them. I have no doubt of its being a seedling ; it having originated near me, from seed brought from Connecticut, about forty years since ; and I think it but little known in this vicinity, except in the immediate neighborhood of the original trees. My attention was first called to the pear, by seeing it offered for sale as the Virgalieu, a name which has been in common use for all pears, (from ordinary to good,) in this region, until within a few years past. As I was about sending it to the exhibition, I happened to say something about giving it a name, and a lady present immediately suggested the name of Frederica Bremer, one so much in accordance with my own feelings, that I did not hesitate to adopt it. The tree is a good grower, and bears well every season. A few barrels were sent to the Boston market this fall."—*Respectfully yours, W. D. B., December 10, 1849.*

The general appearance of the pear is much like the Heathcot, and after eating it we thought it might possibly be that variety, somewhat changed from locality and soil. But the fact that Mr. Hastings had known the tree for *forty years*, at once sets at rest all doubts on that point. We think it may be safely classed among the best pears, and we feel indebted to Dr. Brincklé for the exertions he has made, to ascertain the above particulars of its history.—*Ed.*

ART. V. *The Diana Grape.* By the EDITOR.

ONE of the greatest fields open to the enthusiastic horticulturist, is that of the growth of seedlings of our native grapes, with a view to the production of new and superior varieties. In other fruits, numerous new and greatly improved kinds have rewarded the labors of cultivators, while for thirty years, since the introduction of the Isabella and Catawba, scarcely a single grape has been raised of any value, except the Diana which we are now about to notice.

The Isabella was brought from the South in 1816, and the Catawba was introduced to notice about the same time. From their size, excellence and hardiness, they soon became extensively disseminated throughout the country, taking the place of all other kinds for general cultivation. The foreign grapes, after repeated trials, had been found so uncertain in their crop, and withal requiring protection in winter, that their cultivation was quite given up, except in some of the sheltered gardens of our populous cities; where, from the more genial climate, and the exemption of the berries from mildew, they have been, and still continue to be, successfully raised. But although the Isabella and the Catawba have proved such popular varieties, the uncertainty of the crop, particularly of the latter, in most seasons, in the northern and eastern states,—as well as the somewhat pulpy character of their flesh, and slight harshness of flavor, compared with the fine foreign kinds,—has prevented them from be-

coming general favorites ; and a grape, even if possessing no better qualities than these, but equally hardy, and sufficiently early to mature its fruit with certainty in the New England states, has been a great desideratum. That desideratum, we are glad to say, has now been more than realized in the production of the Diana.

The Diana was first brought to notice in our Magazine, and will be found briefly described in our volume for 1844, (X, p. 242.) We had the pleasure of seeing the first specimens which were publicly exhibited from the original vine, in 1843, and gave a short account of it at that time, (Vol. IX, p. 432.) But as we could not fully judge of its real merits from the inspection of two bunches, we reserved a full notice of it till we could speak more fully in regard to its qualities. This opportunity has not occurred till the past autumn, when we had a fine crop on a vine in our own collection, growing side by side with the Isabella, Catawba, and several other native kinds.

The Diana, when first exhibited, as will be seen in the interesting letter of Mr. Crehore, which we have the pleasure of presenting to our readers, was shown for the purpose of ascertaining the name of the variety ; for although Mrs. Crehore raised the vine from seed, Squire Seaver, of Roxbury, "had no doubt it was the Catawba," and she was naturally desirous of ascertaining whether it was in reality that variety ; and we well remember that some of the gentlemen who first saw it, remarked, that though it was ripe so early as the 23d of September, it was doubtful whether it was not the Catawba, only grown in some warm and sheltered locality. Its great resemblance to the Catawba favored this impression so much, that after an inspection of the original vine, when in fruit, the succeeding year, some of our amateur cultivators were convinced it was only that variety.

Mrs. Crehore, from the high opinion we had expressed of the variety, and the desire to possess it, kindly sent us a few of the cuttings in the fall of 1843. From them we raised four or five plants, in pots, in the summer of 1844. But from the idea entertained by many, that it was only the

Catawba, we neglected our vines. Two of them were turned out into the ground in the spring of 1846, and they did not again attract any attention till the fall of 1848, when, passing the vine after the leaves had partly fallen, we discovered a few straggling clusters of grapes. Naturally curious to know whether the variety was as fine as we originally esteemed it, we tasted some of the berries, and, to our great surprise, we found them perfectly delicious, far excelling the Catawba. We then regretted that we should not have earlier ascertained, and made known, its great merits. Last fall we had a full crop of fine large clusters, ripe fully a week before the Isabella, and so superior to that variety that they obtained the prize of the Massachusetts Horticultural Society, as the finest native grape.

Upon our application to Mrs. Crehore, for some account of the origin of the Diana, we received the following communication :—

DEAR SIR,—My mother, (Mrs. Crehore,) having received a letter from you, asking for some information in regard to the "Diana Grape," she wishes me to give you some account of it. I do not know that I can give you much information which will be interesting, but I will try to answer the questions which you ask in regard to it. In the first place, the Diana is without doubt a seedling from the *Catawba*, though *possibly* it may not be. In the fall of 1831 or '32, my mother received some grapes from the late Squire Seaver, of Roxbury; they were so fine, that she (not then knowing but the seeds of grapes would produce the same variety,) planted some of the seeds the following spring. Only one seed vegetated, and that did not come up till late in the season. In 1834, being about making some alterations about the house, the vine standing very near it, and being in the way, it was removed to its *present location*.

At the time of its removal it was about three feet high. Standing where it was sometimes exposed to the depredation of cattle, and not receiving much (or any) attention, it grew very slowly, and did not bear any fruit till 1838; it was then

very bushy, never having been pruned at all, (*except by cattle*). After the leaves had fallen, we found (near the root,) *one* bunch of grapes, which were very small, but good. The following year it produced some ten or twelve bunches, which would compare favorably with the succeeding crops, excepting the bunches were much more loose than those of the succeeding years after the vine was pruned. The three following years it continued to increase in productiveness, though the fruit was small in quantity, compared with the great growth of wood. (As you have some of the vines, I suppose you have noticed its great luxuriance, and richness of the foliage.)

In the fall of 1842, the vine was a *perfect forest of wood*, and at that time, or the following spring, it was pruned for the first time. In 1843, (you will remember,) my mother exhibited the fruit at the Horticultural room in Boston; that year the fruit was very abundant. Since then the *original* vine has produced and ripened fruit every year till the last. Owing to the severity of the last winter, (or some other cause,) the body of the vine cracked open, and died down to the root. Late in the season it threw out shoots from the root, two of which grew to the length of fifteen and eighteen feet.

I do not know that it is necessary for me to say any thing about the time of ripening of the fruit; we have usually found ours very good by the 1st of September, though not fully ripe till the 10th or 20th of the month. At the exhibition at Dedham, Mr. French, of Braintree, remarked to me, that the Diana Grape had improved in flavor. I do not think those exhibited by my mother, there, were any better, if quite as good, as some I have eaten from the old vine. Whether they would be as good from a young vine, as from one which had fruited a few years, I do not know.

It may seem strange that Mrs. Crehore did not sooner exhibit some of the fruit of the "Diana Grape," but the fact was, she did not know that it was a new variety, though she knew she raised it from the seed; and when she took some of the fruit to the Horticultural room, it was for the purpose

of finding out the variety. Many persons had tasted the fruit, and thought it very fine, but did not (of course) know the variety; some said it *looked* like the Catawba, but did not taste like it; and others thought it a superior *wild* grape, though no one, *learned* in fruit matters, had probably ever seen it till it was exhibited in Boston. When writing about the *origin* of the Diana, I should have mentioned that I took some of the fruit to Squire Seaver, for the purpose of ascertaining whether the kind sent to my mother, and the Diana, were the same. It was so many years since the grapes were sent, that the old gentleman could not remember any thing about it, but said no doubt they were the Catawba, as he had never cultivated any other variety.

You see I have written a long, rambling, and imperfect communication, which you will please excuse. If you can glean any *facts* from the mass, which will be of use to you, I shall be satisfied.—*I am yours respectfully*, JOHN A. CREHORE, *Milton, December 23, 1849.*

Mr. Crehore's letter is so full in regard to all the particulars of the origin of the Diana, that we have only to conclude our notice of it with a description of the fruit, which our engraving (*fig. 2.*) accurately represents:—

VINE, vigorous, making rather slender wood when young: but growing more rapidly after it has attained age.

WOOD, light brown, rather long-jointed.

LEAVES, similar to the Catawba, without lobes.

BUNCH, medium size, about four inches long, without shoulders: *Berries*, medium size, round, closely set, forming a compact cluster, of a delicate pale red color, with a greyish bloom, not so dark as the Catawba: *Flesh*, with scarcely any pulp, juicy, rich and vinous, with a high, delicious flavor: *Seeds*, generally two, rather small. Ripe from a week to ten days before the Isabella.

It is a most abundant bearer, and has less of the taste peculiar to our native grape, than any other variety. It also possesses a peculiarity which we have not noticed in other sorts; as early as the 1st of September, when the berries

first change to a grayish tinge, they are quite sweet, and agreeable to the taste, but they do not acquire the high flavor which constitutes its great excellence until they as-

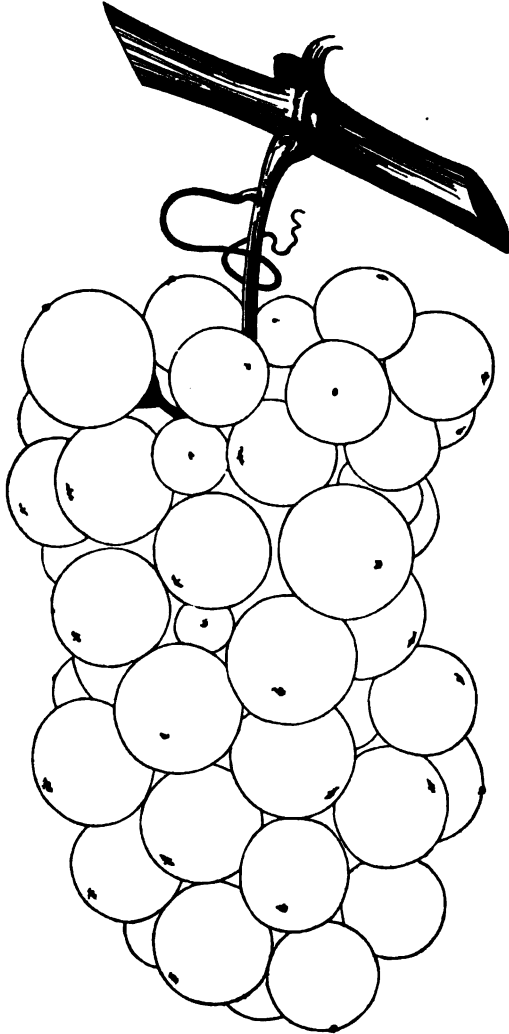


Fig. 2. Diana Grape.

sume their full color, when it is one of the handsomest grapes we have ever seen.

The only vine which has fruited out of the vicinity of Boston, is one in the collection of H. W. Sargent, Esq., of Fishkill Landing, N. Y. We sent Mr. Sargent one of our vines in the spring of 1845, and we are glad to learn it has produced a good crop of grapes the last two years.—*Ed.*

ART. VI. *Pomological Gossip.* By the EDITOR.

THE increased attention which is now given to Pomology, has induced us to attempt to treasure up for our readers monthly, under this head, much of that information which, though apparently trifling, is still often too valuable to be lost. At the weekly meetings of the Fruit Committee of the Massachusetts Horticultural Society, discussions often spring up, in relation to fruits presented before them, which elicit much useful information, and which are not unworthy of being fully reported; and *conversations* frequently take place among amateur cultivators, at occasional meetings, which are not less valuable and interesting. It will be our object in this article, to gather the substance of such meetings; and, with what comes to us in the way of Notices of fruit, Enquiries, Criticisms, &c., to present our Pomological readers with such monthly gossip as will not fail to interest them more deeply in their favorite pursuit.

It is to be regretted that the officers of the two Pomological Conventions, held last fall, in whose hands was placed the duty of publishing their *Transactions*, have not been able to issue the same. Much of the interest which attaches to them is lost by so much delay. We do not say this with any view to find fault, because we know, so far as the Pomological Convention at Syracuse is concerned, that the Report was placed in the printer's hands in one week after the meeting adjourned; we only refer to it, to show how important it is that these Reports should be published as speedily as is consistent with accuracy.

At Syracuse, Mr. Denniston, the great plum raiser of Albany, presented a great variety of plums, among which were a large number of seedlings; none of which however appeared very remarkable, unless we except one, which he has called the Madison. Its greatest merit is its lateness, from the first to the middle of October. It is a roundish oval fruit, with an orange-yellow skin, dotted with deep crimson on the sunny side; flesh, yellow, rich, saccharine and excellent. The variety is a great bearer, and will undoubtedly prove a fine late fruit.

In our notice of the meeting of the Pomological Congress, we had only space to give the List of Fruits adopted for general cultivation; intending to notice the best of those which "give promise of being worthy to be added to the list," and also the names of those which were rejected when the report was received. We therefore now add the names of the fruits which were reported by the General Fruit Committee as promising well.

PEARS.

Ananas d'Été,	Jealousie de Fontenay Vendee,
Beurré d'Anjou,	Elizabeth (Van Mons),
Brandywine,	Pratt,
Chancellor,	Striped Madeleine,
Doyenné d'Été,	Ott,
Duchesse of Orleans,	Paradise of Automme,
Doyenné Boussock,	Van Assene.

PLUMS.

Rivers's Favorite,	St. Martin's Quetsche.
McLaughlin,	

STRAWBERRIES.

Burr's New Pine,	Jenney's Seedling.
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RASPBERRY.

Knevet's Giant.

GRAPE.

Diana, (native).

A very interesting discussion took place upon the motion to add the Black Prince Strawberry and some other kinds, to the list of kinds for general cultivation; and as the remarks

of gentlemen were taken down by a reporter, we shall refer to them hereafter.

Some fine specimens of apples were presented at New York, by Mr. J. Battey, of Keeseville, N. Y., one of which was a remarkably beautiful sweet apple, called by him the Northern Golden Sweet, but which the Committee suggested should be altered to Northern Sweet, as there is already a Golden Sweet. The fruit is of full size, nearly round, and with a rich, deep golden yellow skin, slightly tinged with pale red in the sun. Flesh, rich, sugary, and excellent. The committee thought highly of the variety. Mr. Battey gave us some of his specimens, from which we intended to present a drawing and full description; but some one appropriating them to their own use, we are prevented from doing so till another year.

The Canandaigua Pear was the name proposed to be given to a large, very handsome and excellent variety, exhibited at the Pomological Congress, in New York, by the Committee on Seedling Fruits. It was shown under the name of *Catherine*, by which term it is known in western New York, but as there is already one or more pears cultivated under that cognomen, it was deemed proper to change it, to prevent confusion. The pear has a great resemblance to the Williams's Bon Chrétien, or Bartlett, is about of the same quality, and ripens at the same time, but is not quite so large. It seems to be a variety well worthy of cultivation. Our specimens, obtained at New York, accompanied those of the Northern Sweet apple, and a figure and full description must be deferred till next autumn.

MISCELLANEOUS INTELLIGENCE.

ART. I. Domestic Notices.

Spring Grove Cemetery, Cincinnati.—I send you a copy of the "Annual Report to the Lot Holders of the Cemetery of Spring Grove," for 1849. This, with its Charter, Rules and Regulations, including the Dedication Address, with a short history of its rise and progress, will give you a full idea of this interesting place, with its future prospects. I hope you will review them. It is a subject to which public attention should be called.

The genius of our institutions seems rather opposed to the occupying of large tracts of land for public or private *parks*, but perfectly in harmony with extensive *Rural Burial Grounds*, which, with judicious management, can be made to answer all the useful objects of the former, with a decided superior influence on the public morals. No city or town should, or need be, without them. Burial grounds have been made objects of speculation, to build up other interests. Divest them of this *feature*, and employ the means derived from the sale of lots, and the *burial* of the *dead*, to *protect them*. This privilege the living surely have a right to claim for themselves, when through with the busy scenes of life, and there will be no want of means to make them plantations of every tree, shrub, and flower, that is beautiful and interesting, and to preserve them, and keep them, with the grounds, in the best possible order. There surely is nothing more soothing to the feeling heart, than such a resting place for the remains of departed friends. Here the pure and holy emotions of the heart of the visiter are likely to find vent in dwelling on the virtues of those who have found a resting place there. It is hardly likely that any contemplative mind can retire from such a consecrated ground, without being influenced to a better and more elevated life. Can we do better than to place the subject in a proper light before the public mind. I submit the question to you and others, who have charge of *Journals* devoted to *Horticulture*, and the *general improvement of the country with a refined taste in the public mind*.—*Very respectfully yours*, A. H. ERNST, Cincinnati, Nov. 12, 1849.

The Ohio Fruit Convention assembled at Columbus, on the 5th of December, and was organized by the appointment of A. H. Ernst, as President, and F. R. Elliott, Secretary. Forty-eight fruit growers and nurserymen were present, from various parts of the state.

Fine collections of apples were exhibited by Messrs. Ernst, J. F. Warder, J. T. Warder, W. J. Clark, T. S. Humrickhouse, S. A. Barker, and others. A discussion took place upon the subject of "plum growing, and prevention from ravages by the Curculio," and resulted, nearly as all such discussions do, namely, an equal division of opinion as to the various modes which have been, from time to time, advocated in the periodicals of the day. The meeting then proceeded to an examination of the fruit. The Secretary, Mr. Elliott, was authorized to write out the proceedings of the Convention for publication, and the meeting, at the close of the second day, adjourned to the fall of 1851, to meet at such time and place as the President and Secretary may direct, giving due notice of the same.—*Ed.*

Proceedings of the New York Pomological Congress.—We have learned since our article was written, in a preceding page, that the *Proceedings* of this convention will not be published by the American Institute until they make up their State Report, which will not probably be till April or May; this will be greatly regretted by the members who were present, as well as by all cultivators throughout the country. In the mean time we shall endeavor to notice some of the more important discussions from our own notes.—*Ed.*

Southern Iowa Horticultural Society.—The best evidence of the progress

of Horticulture, is in the increase of Horticultural Societies, which are springing up in all parts of the country. We have now before us the doings of the Southern Iowa Horticultural Society, which the Secretary informs us "sprung up as by magic, early in the past summer, and under the most favorable auspices." The first annual exhibition was held on the 4th of October last, and was highly creditable for that new country. The show of apples was very fine, no less than *thirty-three* varieties of apples,—six of pears,—and three of peaches, were exhibited by one member, and thirty-two varieties by the President. The Executive Committee justly remark, that "the exhibition of fruits far exceeded the expectations of the most sanguine member, both as relates to quantity and quality. We hazard nothing in saying, that a finer exhibition of apples has never been made west of the Alleghany mountains, and this too, by a society newly organized, and in a region of country, that goes back only fourteen years to its first settlement. The number of each variety was large, and the tables groaned under their burthens. The specimens were uncommonly large, fair, and well grown. A large number of seedlings were exhibited, none of which were deemed equal, or superior to other varieties of the same season, save one. That one has been fruited the past two or three years, and was deemed by the Committee worthy of especial notice and commendation. It was christened the Comstock. It is certainly a very superior apple.

"There were but few varieties of pears upon the tables. This excellent fruit is being extensively cultivated in the neighborhood, and many more varieties will be in bearing another season. Enough is known, to assure us that it will succeed admirably in this region." The meeting was too late for flowers, except the Dahlia, of which there was a fair display.

We congratulate the members on their fine exhibition, and are ready to admit, that even the oldest of our Eastern societies could not make a richer display of apples than that of the Iowa.

Accompanying the Constitution, &c., are the names of the officers of the Society, namely, Mr. Robert Avery, *President*; Dr. John F. Henry, *Vice President*; Mr. William F. Coolbaugh, *Treasurer*; Rev. A. Leonard, *Corresponding Secretary*; L. D. Stockton, Esq., *Recording Secretary*.

The list of Premiums for 1850 is appended to the Report, and we are glad to find so high an appreciation of our Magazine, that it is offered for the best display of apples next autumn.

The Society having elected us an honorary member, we have directed our Magazine to be forwarded to their address for the year, and hope we may be able to aid them in the good work, in other ways.—*Ed.*

Munificent Bequest for Rural Improvement.—Mr. Bromfield of Boston, recently deceased, made the following munificent bequest in his will, to the town of Newburyport, his native place, for improving and ornamenting the public streets:—

"I order the sum of ten thousand dollars to be invested at interest in the Hospital Life Insurance Company, in this city of Boston, so and in such manner as that the Selectmen, or other duly authorized agents of the town of Newburyport, for the time being, may annually receive the interest which

shall accrue, or become payable for, or in respect of said deposit; and I direct that by or in behalf of said town, the interest so received shall be annually expended, one half to keeping the side walks in the public streets of said town in good order, and the other half in the planting and preserving trees in said streets, for the embellishing and ornamenting of said streets, for the pleasure and comfort of the inhabitants."

With the exception of the liberal bequest to the Massachusetts Horticultural Society, by the late Hon. Theodore Lyman, this is one of the most noble gifts ever made for rural improvement, and the name of Mr. Bromfield will ever be held in grateful remembrance by the descendants of his native town.

—Ed.

ART. II. *Massachusetts Horticultural Society.*

Saturday, Nov. 28.—Exhibited.—**FRUIT:** From F. Tudor, two varieties of pears,—one of them probably the Sieulle. From S. W. Cole, Cole's Quince, Cornish Spice, and Columbia Pippin apples.

December 1.—An adjourned meeting of the Society was held to-day,—the President in the chair.

The Executive Committee reported the following appropriations for premiums for 1850:—

Appropriations for Premiums, &c.—The Executive Committee recommend an appropriation, for 1850, of the sum of \$1,900 00, as follows:—Prospective Premiums, \$650; Flower Committee, \$650; Fruit Committee, \$450; Vegetable Committee, \$150.

A copy of the American Fruit Culturist was received from J. J. Thomas, the author, and the thanks of the Society voted for the same.

The report of the Vegetable Committee was read and accepted.

The Corresponding Secretary reported that the Rev. J. Leach had accepted of the office of Recording Secretary.

Amos W. Stetson, Bridgewater; Barnard D. Reynoso, South Boston; and G. F. Stone, Newton, were elected members.

Adjourned two weeks, to December 14.

Exhibited.—**FRUIT:** From O. Johnson, fine specimens of Le Cure, Passe Colmar, Echasserie and Easter Beurré pears; also fine Baldwin apples. From Jos. Stickney, handsome Coffin's Virgoulouse pears. From A. W. Haven, fine Passe Colmar pears. From J. Lovett, fine Glout Morceau pears, and Golden Russet apples. From D. T. Curtis, handsome Easter Beurré, Le Curé and Winter Nelis pears.

December 8.—Exhibited.—**FRUIT:** From Prof. E. N. Horsford, apples, supposed to be the Vandervere and Esopus Spitzenberg.

December 15.—An adjourned meeting of the Society was held to-day,—the President in the chair.

The report of the Committee for Establishing Premiums was read, and referred to the Executive Committee.

It was voted that the resolution on the records, requiring the Recording

Secretary to furnish Mr. Breck with a copy of the official report of the doings of the Society, be rescinded.

Adjourned one week, to December 22.

December 22.—An adjourned meeting of the Society was held to-day,—the President in the chair.

It was voted that the Bible presented to the Society by Samuel Appleton, Esq., be submitted to him for his inspection and approval.

Mr. C. M. Hovey presented the Society with a copy of the *Florist*, from Mr. Beck, corresponding member of London; and the thanks of the Society were voted to Mr. Beck, and the Corresponding Secretary authorized to communicate a copy of the vote.

Adjourned one week, to December 29.

December 29.—An adjourned meeting of the Society was held to-day,—the President in the chair.

The report of the Committee on Fruits was read and accepted.

Mr. C. M. Hovey, from the committee appointed to alter the rules and regulations for the exhibitions of the ensuing year, submitted the following report, which was accepted:—

1. Gratuities shall not be awarded, for flowers, fruits, plants, or vegetables, unless the same are offered for competition for the respective premiums, as advertised by the Society,—except for objects for which no prizes are specified, or which may be new or rare, or show superior skill in cultivation; and in no case shall such gratuity exceed the amount of the Society's *silver medal*.

2. Any member to whom a prize has been awarded, whether in money or plate, may receive either, of like valuation, at his option.

The Executive Committee submitted the Schedule of Premiums for 1850, which was accepted.

The President, Treasurer, and Chairman of the Committee on Finance, were appointed a committee to settle with the Mount Auburn Cemetery.

A committee of three was appointed to nominate a Committee of Arrangements for 1850, and report at the stated meeting in January. C. M. Hovey, J. Lovett, and Dr. Wight, were appointed the committee.

It was voted that the list of Premiums for 1850, together with the premiums awarded for 1849, be printed, under the direction of the President and Secretary.

Meeting dissolved.

The following are the Reports of the Committees awarding Premiums for 1849.

REPORT OF THE COMMITTEE ON FLOWERS, AWARDING PREMIUMS FOR 1849.

The Committee submit the following Report of Premiums for 1849:—

PREMIUMS AT THE OPENING OF THE HALL.

PELARGONIUMS.—Class I.—For the best 6 varieties, to J. Quant,			\$6 00
Class II.—For the best 6 varieties, to J. Quant,			6 00
CACTUSES.—For the best 6 varieties, to Hovey & Co.,			3 00

CALCEOLARIAS.—For the best, to A. Bowditch,	\$3 00
For the second best, to J. Quant,	2 00
HEATHS.—For the best variety, to M. P. Wilder,	3 00
GREENHOUSE PLANTS.—For the best display, to M. P. Wilder,	8 00
For the second best, to Hovey & Co.,	5 00
CUT FLOWERS.—For the best display, to J. Nugent,	3 00

PREMIUMS DURING THE SEASON.

CAMELLIAS.—For the best 12 flowers, to M. P. Wilder,	8 00
For the second best, to Hovey & Co.,	6 00
GREENHOUSE AZALEAS.—For the best 6 plants, to Hovey & Co.,	6 00
HYACINTHS.—For the best display, to J. Breck & Co.,	5 00
For the second best, to R. M. Copeland,	3 00
TULIPS.—For the best 30 flowers, to Hovey & Co.,	8 00
For the second best, to Breck & Co.,	6 00
For the third best, to A. Bowditch,	3 00
PANSIES.—For the best display, to Breck & Co.,	4 00
HAWTHORNS.—For the best display, to Messrs. Winship,	3 00
For the second best, to J. A. Kenrick,	2 00
HARDY AZALEAS.—For the best, to J. A. Kenrick,	5 00
For the second best, to Messrs. Winship,	3 00
SHRUBBY PEONIES.—For the best display, to M. P. Wilder,	5 00
For the second best, to Breck & Co.,	3 00
HERBACEOUS PEONIES.—For the best 12 flowers, to M. P. Wilder,	5 00
For the second best, to J. S. Cabot,	4 00
For the third best, to Breck & Co.,	3 00
ROSES.—Class I.— <i>Hardy Roses</i> . For the largest and best collection,	
to A. Aspinwall,	12 00
For the second best, to Breck & Co.,	10 00
For the third best, to Hovey & Co.,	5 00
Class II.—For the best 30 varieties, to A. Aspinwall,	8 00
For the second best, to Hovey & Co.,	6 00
Class III.—For the best 12 varieties, to Breck & Co.,	5 00
Class IV.— <i>Hardy Perpetuals</i> . For the best 10 varieties, to A. Aspinwall,	5 00
For the second best, to Breck & Co.,	4 00
For the third best, to Hovey & Co.,	3 00
Class V.— <i>Prairies</i> . For the best display, to Hovey & Co.,	4 00
For the second best, to Messrs. Winship,	3 00
PINKS.—For the best display, to J. Quant,	4 00
PLANTS IN POTS.—For the best display, to Hovey & Co.,	8 00
HERBACEOUS PLANTS.—For the best display, to Breck & Co.,	8 00
For the second best, to P. Barnes,	5 00
MAGNOLIAS.—For the best display, to J. A. Kenrick,	3 00
HOLLYHOCKS.—For the best display, to Breck & Co.,	3 00
For the second best, to Hovey & Co.,	2 00
For the third best, to P. Barnes,	1 00

CARNATIONS AND PICOTÉES.—For the best 10 varieties, to Hovey & Co.,		\$5 00
For the second best, to J. Nugent,		4 00
For the best display, to Hovey & Co.,		3 00
BALSAMS.—For the best display, to T. Needham,		4 00
For the second best, to J. Nugent,		2 00
For the third best, to Breck & Co.,		1 00
PHLOX.—For the best 12 varieties, to Breck & Co.,		6 00
For the second best, to Hovey & Co.,		4 00
For the third best, to M. P. Wilder,		3 00
GERMAN ASTERS.—For the best display, to Hovey & Co.,		4 00
For the second best, to J. Nugent,		3 00
For the third best, to L. Spear,		2 00
HERBACEOUS PERENNIALS.—For the best, to Breck & Co.,		5 00
For the second best, to P. Barnes,		4 00
For the third best, to Messrs. Winship,		3 00
ANNUALS.—For the best, to Breck & Co.,		5 00
For the second best, to P. Barnes,		4 00
For the third best to A. Bowditch,		3 00
SHRUBBY PLANTS.—For the best, to Messrs. Winship,		5 00
For the second best, to J. A. Kenrick,		4 00
For the third best, to Wm. Kenrick,		3 00
RHODODENDRONS.—For the best display, to Hovey & Co.,		3 00

☞ The Premiums awarded at the Annual Exhibition, in September last, will be found at p. 472, and the Premiums for Dahlias at p. 521, of our volume for 1849.

GRATUITIES.

To J. Quant, for <i>Pimæla spectabilis</i> ,	\$2 00
To N. J. Becar, for <i>Calceolarias</i> , the silver medal,	5 00
To Thomas Owes, for Parasitical plants,	5 00
To Hovey & Co., for fine <i>Pelargoniums</i> ,	6 00
To Hovey & Co., for <i>Stephanótus floribündus</i> ,	5 00
To Hovey & Co., for Chinese Primroses,	3 00
To Messrs. Winship, for exhibition of <i>Spiræas</i> ,	5 00
To Hovey & Co., for Sweet Williams and Verbenas,	3 00
To A. Bowditch, for Herbaceous plants,	5 00
To B. V. French, for Roses and Herbaceous plants,	5 00
To A. Bowditch, for Chinese Roses,	6 00
To Miss Russell, for Flowers and Flower Baskets,	3 00
To Mrs. Spaulding, for Plants and Bouquets,	3 00
To A. Bowditch, for Hand Bouquets,	2 00
To O. N. Towne, for Hand Bouquets,	2 00
To M. P. Wilder, for Cut Roses,	5 00
To Hovey & Co., for <i>Ranunculuses</i> and <i>Anemonies</i> ,	2 00
To Hovey & Co., for Prairie Roses,	2 00
To Dr. D. Wood, for <i>Ericas</i> ,	2 00

PREMIUMS AND GRATUITIES AT THE WEEKLY EXHIBITIONS.

To M. P. Wilder, for Plants, &c., at the weekly exhibitions, . . .	\$11 00
To A. Bowditch, for Bouquets, &c., at the same, . . .	21 00
To J. Quant, for the same,	5 00
To J. Nugent, for the same,	15 00
To P. Barnes, for the same,	11 00
To Miss Russell, for the same,	9 00
To Messrs. Winship, for the same,	16 00
To W. Kenrick, for the same,	2 00
To J. A. Kenrick, for the same,	2 00
To Messrs. Hovey & Co., for the same,	4 00
To Breck & Co., for the same,	8 00
To Miss Kenrick, for the same,	5 00
To J. G. Swan, for the same,	6 00
To J. Hovey, for the same,	9 00
To E. Barnes, for the same,	3 00
To Miss Barnes, for the same,	5 00
To T. Needham, for the same,	5 00
To Mrs. M. Daggett, for the same,	1 00
To J. W. Brown, for the same,	1 00
To L. Davenport, for the same,	2 00
To D. Pierce, for the same,	1 00

For the Committee: D. HAGERSTON, *Chairman*.

REPORT OF THE COMMITTEE ON FRUITS,
AWARDING PREMIUMS FOR 1849.

The Committee on Fruits now submit the following report of their award of the prizes offered by the Society for the several varieties of Fruits, for the year 1849. The unpropitious character of the past season for the production of several varieties of Fruits,—particularly apples and pears,—has had the effect of seriously diminishing the number of competitors for prizes, of specimens and varieties exhibited, and, thereby, of somewhat diminishing the interest of the weekly exhibitions of the Society in this department. But these effects, naturally to be expected, of causes beyond the control of human agency, will be, it is believed, temporary in their nature, and are in no way discouraging to the efforts or zeal of cultivators; and this diminution in number of competitors, or specimens, indicates no permanent want of interest in the Society, or belief in its beneficial influences. This does not seem a fitting time or place to enter upon a consideration of the causes that have been attended with such disastrous consequences; but a reference to the fact appeared necessary, as explanatory of the circumstance that some of the prizes offered had not been awarded, and because that the absence of such allusion might have possibly induced the opinion that this was an indication of diminished zeal in cultivation, or of interest in the objects of the Society.

Notwithstanding the fact that the pears exhibited, the past season, have

been much fewer than usual, both in the number of specimens, as well as of varieties, yet it is satisfactory to your committee that they are able, with safety, to assert that some of the specimens offered for competition were of superior excellence; equalling, if not surpassing, in size and beauty, any ever before placed upon the tables of the Society. An assignment of a cause for this superiority is forbidden by an ignorance of facts applicable thereto; but it is, at least, hoped that it is wholly or in part attributable to improved modes of cultivation. It would be an agreeable duty to enumerate all the instances of this superiority referred to. To attempt its performance might, however, be an invidious task; yet, as a proof that the obstacles arising, not only from an unfavorable season, but those created by a usually supposed most uncongenial climate and situation, as well as an unfavorable soil, may be successfully surmounted, it may not be improper to state, in this connection, that the Louise Bonne d'Avranche pears, and some others, exhibited by F. Tudor, Esq., raised on his grounds at Nahant, were very superior in size and beauty; their excellence in the former respect arising, in the opinion of that gentleman, from the stimulating effects of rain water repeatedly applied to the trees.

The reverse of what has been said with respect to the excellence of some of the pears exhibited, is applicable to apples generally, which, the past year, have been not only few in number, but generally of inferior quality. For want of any, in their opinion, worthy of a premium, the committee have refrained from awarding the second prize for autumn apples; the same want having also compelled the adoption of the same course with respect to summer pears.

With these preliminary remarks, the committee now announce the following Award of Prizes, as made by them for the past year, viz:—

PRIZES AND GRATUITIES DURING THE SEASON.

For the best and most interesting exhibition of Fruit during the season, the Lowell Plate, to John F. Allen,	\$20 00
For the second best, to Otis Johnson,	12 00
For the third best, to Messrs. Hovey & Co.,	8 00
APPLES. —For the best summer apples, to John Hovey, for Early Harvest,	
	6 00
For the second best, to Otis Johnson, for Early Bough,	4 00
For the best autumn apples, to J. Lovett, 2d, for Drap d'Or,	6 00
For the second best, no award made.	
For the best 12 winter apples, to J. A. Kenrick, for Cogswell,	6 00
For the second best, to O. Johnson, for Baldwin,	4 00
BLACKBERRIES. —For the best specimens, to G. Merriam,	5 00
For the second best, to O. C. Grant,	3 00
CHERRIES. —For the best specimens, to G. Walsh, for his seedling,	6 00
For the second best, to O. Johnson, for Black Tartarean,	4 00
CURRENTS. —For the best specimens, to Hovey & Co., for May's Victoria,	
	5 00
For the second best, to G. Wilson, for White Dutch,	3 00

FIGS. —For the best 12 specimens, to J. F. Allen,	\$5 00
For the second best, to O. Johnson,	3 00
GOOSEBERRIES. —For the best specimens, to J. Hovey,	5 00
For the second best, to J. Lovett, 2d,	3 00
GRAPES. —For the best grown under glass, before the first Saturday of July, to H. B. Crooker by T. Needham,	10 00
For the second best, to J. F. Allen,	7 00
For the best grown under glass, subsequent to the first Saturday of July, to B. D. Emerson,	10 00
For the second best, to Hovey & Co.,	7 00.
For the best specimens of native grapes, to Hovey & Co., for Diana,	5 00
For the second best, to C. E. Grant, for Isabella,	3 00
MUSKMELONS. —For the best muskmelon, on or before the last Sat- urday in August, to Geo. Newhall,	5 00
For the second best, to E. M. Richards,	3 00
(F Both Premiums awarded for the variety called Christiana.	
NECTARINES. —For the best specimens, to J. F. Allen,	6 00
For the second best, to W. C. Strong,	4 00
PEACHES. —For the best grown under glass, on or before the second Saturday in July, to J. F. Allen,	6 00
For the second best, to O. Johnson,	4 00
For the best grown in open culture, to Galen Merriam,	6 00
For the second best, no prize awarded.	
PLUMS. —For the best specimens, to O. Johnson, for Green Gage,	6 00
For the second best, to F. King, for Coe's Golden Drop,	3 00
PEARS. —For the best collection, not exhibited before this year, with a written description of the same, the Society's Plate,	
For the second best,	
(F There were no competitors.	
For the best summer pear, before the last Saturday in August, no prize awarded.	
For the second best, no prize awarded.	
For the best autumn pears, to F. Tudor, for Louise Bonne d'Avranche,	6 00
For the second best, to E. Cleaves, for Beurré Bosc,	4 00
For the best winter pears, to J. S. Cabot, for Winter Nelis, on March 3, 1849,	10 00
For the second best, to O. Johnson, for Le Curé,	6 00
QUINCES. —For the best specimens, to O. Johnson,	5 00
For the second best, to J. Washburn,	3 00
RASPBERRIES. —For the best specimens, to J. Lovett, 2d,	5 00
For the second best, to J. Richardson,	3 00
STRAWBERRIES. —For the best specimens, to J. Richardson, for Bos- ton Pine,	6 00
For the second best, to O. Johnson, for Hovey's Seedling,	4 00
For the third best, to Hovey & Co., for Boston Pine,	3 00

☞ In addition to the foregoing premiums, the committee recommended that there also be awarded as

GRATUITIES,

To Hovey & Co., for Jacques Peaches, raised in pots, . . .	\$6 00
To J. F. Allen, for Urbaniste Pears, . . .	5 00
To H. Plympton, for St. Michael Pear, . . .	5 00
To H. Vandine, for Marie Louise Pear, . . .	5 00
To J. Lovett, 2d, for Beurré Diel Pear, . . .	5 00
To J. F. Allen, for Grapes raised under glass, subsequent to the first Saturday of July, . . .	5 00
To Thos. Needham, for the same, . . .	5 00
To O. Johnson, for the same, . . .	5 00
To E. Burns, for Strawberries, raised under glass, . . .	5 00

As an indication of what may be effected by skill and care in cultivation, a statement of the fact that grapes, grown under glass, by J. F. Allen, Esq., have been placed upon the tables of the Society by that gentleman, in every month during the year, may not be uninteresting to its members.

For the Committee: JOSEPH S. CABOT, *Chairman*.

☞ The Premiums awarded at the Annual Exhibition, in September last, in addition to the above, will be found at p. 477 of our volume for 1849.

REPORT OF THE COMMITTEE ON VEGETABLES,

AWARDING PREMIUMS FOR 1849.

The Committee on Vegetables respectfully beg leave to report that the exhibitions have exceeded their anticipations. It is gratifying to them to perceive the increased interest manifested by residents of the towns around the city, in the welfare of the Society; and they beg leave to express the hope that the farmers of the vicinity may be induced to give more of their attention than heretofore in exhibiting the products of their farms.

The Premiums are awarded as follows:—


ASPARAGUS.—For the earliest and best, to F. A. Davis, . . .	5 00
BEETS.—For the best during the season, to A. D. Williams, . . .	3 00
BROCOLI.—For the best 3 heads, to J. Lovett, . . .	5 00
BEANS.—For the best early String Beans, to Geo. Newhall, . . .	3 00
For the best Lima, to F. A. Davis, . . .	3 00
CABBAGES.—For the best Drumhead, to A. D. Williams, . . .	5 00
For the best Savoy, to A. D. Williams, . . .	3 00
CARROTS.—For the best, to A. D. Williams, . . .	2 00
CAULIFLOWERS.—For the best, to A. D. Williams, . . .	5 00
For the second best, to O. N. Towne, . . .	3 00
CORN.—For the best Sweet, to A. D. Williams, . . .	3 00
For the second best, to F. A. Davis, . . .	2 00
CUCUMBERS.—For the best, under glass, to O. N. Towne, . . .	5 00
For the second best, to T. Needham, . . .	3 00

Egg PLANTS. —For the best display, to Hovey & Co., . . .	\$5 00
For the second best, to A. McLennan, . . .	2 00
PEAS. —For the best and earliest, to J. Quant, . . .	3 00
RHUBARB. —For the best display, to J. Lovett, . . .	5 00
For the second best, to J. A. Kenrick, . . .	3 00
SQUASHES. —For the best Canada, to A. D. Weld, . . .	3 00
POTATOES. —For the earliest and best, to A. D. Williams, . . .	3 00
VEGETABLES. —For the best and greatest display at the weekly exhibitions, to A. D. Williams, . . .	5 00

GRATUITIES.

To J. Crosby, for the best and earliest Cucumbers, open culture, . . .	3 00
To J. Crosby, for early Cabbages, . . .	2 00
To S. Walker, for Water Cresses, . . .	2 00
To J. Quant, for early Cucumbers, . . .	2 00
To J. Crosby, for the second best show of vegetables, at the weekly exhibitions, . . .	2 00
To J. Owen, for Celery, . . .	1 00

For the Committee: A. D. WILLIAMS, *Chairman.*

 The Premiums awarded at the Annual Exhibition, in September last, in addition to the above, will be found at p. 479 of the volume for 1849.

HORTICULTURAL OPERATIONS

FOR JANUARY.

FRUIT DEPARTMENT.

GRAPE VINES, in the hot house, will now begin to swell their buds, and will require considerable attention at this season of the year. The temperature should be kept up to 50° or 55°, and in a fortnight increased 55° to 60°. Syringing should be kept up every morning in good weather, till the eyes are fully broken. See that the border is well protected with a thick covering of manure, hay, or leaves. Grape vines in the greenhouse and grape-ry will now be at rest, and will not require any attention till the end of the month. Vines in pots should now be shifted, and got in readiness for bringing into the house.

FIG TREES in pots should now be pruned, if not already done, repotted if they need it, and placed in a warm situation, where they will soon begin to grow.

PEACH TREES in pots may be brought forward the last of the month.

SCIONS of fruit trees may now be safely cut at leisure time, thus saving labor when the season is more advanced. Preserve them by inserting the ends in a box of earth, in a cool cellar.

SEEDS of Gooseberries, Grapes, Strawberries, &c., may now be planted

in boxes in the greenhouse, or in hot beds, and brought forward so as to make strong plants by autumn.

FLOWER DEPARTMENT.

CAMELLIAS will now be in full flower, and should be liberally watered, syringing occasionally in fine weather. If the soil is mossy, it should be carefully top-dressed. Inarching and grafting may be commenced the last of the month. Seeds should be sown now, if not planted before. Attend to the impregnation of flowers if seeds are wanted.

PELARGONIUMS will require a little more attention now: such as need it should be repotted, and the branches carefully tied out to pegs, so as to make short stocky specimens; nip off the tops of the most forward shoots, as this will make them throw out laterals; keep the plants rather dry, and place them on shelves near the light, to prevent them from drawing up. Seeds saved last year should be planted now.

JAPAN LILIES will soon require to be repotted; as soon as they begin to grow this should be done. Seeds may be sown now.

DAHLIAS wanted for very early flowering should be brought forward this month: or, if they are wanted for propagation, they should be potted.

OXALISES, done blooming, should be placed away on a light shelf, and be sparingly watered.

PANSIES, in pots, should be kept on a cool shelf near the light, in order to make them dwarf and stocky plants. Repot such as show signs of blooming. Seeds may be planted now for a succession.

GLOXINIAS should be potted now for early blooming.

ACHIMENES should also be potted now, if early flowering plants are wanted.

VERBENAS should be repotted. Seed should be sown now in order to get the plants early into flower.

SCHIZANTHUSES should now be repotted.

PETUNIAS of the fine kinds should now be propagated from cuttings.

AZALEAS should be rather sparingly watered.

ROSES will now be coming into flower. Syringe the plants freely, and water occasionally with liquid guano. Fumigate often with tobacco, to keep down the green fly; and with sulphur, to kill the red spider.

HELIOTROPES should now be propagated from cuttings, for a spring stock.

FUCHSIAS should now be potted, and if a large stock is wanted, they should be propagated by cuttings.

CALCEOLARIAS will need another shift into large pots.

HEATHS of many kinds will now be in bloom: water liberally, and syringe occasionally; such as appear to need it should be repotted, and if a stock is wanted, now is the best season to put in the cuttings.

GUAVAS should be repotted now into large pots, if they are of sufficient size to produce fruit.

CARNATIONS and PICOTEEs, for early flowering, should now be shifted into larger pots.

TREE PÆONIES in pots may now be brought forward for early blooming.

THE MAGAZINE OF HORTICULTURE.

FEBRUARY, 1850.

ORIGINAL COMMUNICATIONS.

ART. I. *Notes on Gardens and Gardening in the neighborhood of Boston.* By R. B. LEUCHARS, New Haven.

THE admirers of fine plants and fine gardens, cannot fail to be struck with the superiority of the gardening establishments, in the neighborhood of Boston. Whether the visiter directs his attention to the extent of the grounds,—the general arrangements of the garden,—the hardy ornamental trees, that embellish and beautify the landscape, or the collections of tender exotics, that grace the greenhouse and conservatory, he finds all these,—even under the severer frosts of longer winters,—carried out with a degree of energy, perseverance and skill, unequalled in any other part of America. In most other places, gardening, is yet in its infancy; in some, still in its cradle; and in others, it has hardly sprung into existence. Here, however, it has come to maturity, and has attained a goodly age.

It is a very general impression among English gardeners, (and I must plead guilty to having inherited some of the same feeling,) that there are no places in this country that will bear comparison with the fine gardens in England. 'Tis true; there is neither the extent, nor the magnificent structures, of a Chatsworth, of a Dalkeith, of a Sion House, and some others; but with the exception of some of these very extensive places, there are few others, among the noble and titled establishments of old England, to which the splen-

did residences of Colonel Perkins and Mr. Cushing will not stand as formidable rivals. I write free from prejudice or fear,—being a perfect stranger to one and all of the parties, whose places I visited, and without the slightest intention of writing a notice of them. I visited them under the most unfavorable circumstances, when the snow covered the ground; but the general outline and appearance of the gardens, and especially the plant and forcing houses, manifested a degree of skill and attention which could not fail to be observed.

The Grounds of J. P. Cushing, Esq., Watertown, near Mount Auburn, are laid out on the plan of modern European gardens, and appear to be an exact counterpart of the style of the late Mr. Loudon, and so admirably carried out by him, with a due regard to convenience, as well as effect. Notwithstanding that this system of laying out kitchen gardens, and building forcing houses, bears the stamp of antiquity, and has given place to the sweeping improvements (so called) of more recent times, still the range of lean-to forcing houses, (call them old fashioned if you like,) with their internal communications,—their adjoining back sheds,—and all their accompanying conveniences, have something about them, which, in spite of their demerits, makes us like them,—only however for forcing houses;—and for this purpose they have a claim to our esteem, which, in my opinion, *span*-roofed houses can never possess.

The range of houses on the southern aspect, is about three hundred feet long. The centre being occupied as a large greenhouse, and the adjoining houses, diminishing in size towards each extremity. These are flanked by a smaller range of peach houses on the Eastern and Western aspects; the whole having a systematic appearance, and a peculiarly pleasing effect. The inclosed space, of about two acres, forms the kitchen garden, which is finely laid out, trellised and planted with the finer sorts of pears, peaches, &c. These latter were on trellises, and protected with spruce branches, from the frost, or rather from the hot sun that succeeds it. I think this an excellent method; it is extensively practised

with much benefit in the northern parts of Great Britain. In fact, without such partial protection, the culture of peaches would be all but impossible. The principles upon which the various operations of gardening are conducted about this place by Mr. Schimming, are thoroughly scientific, and manifest a perfect understanding of the numerous details connected with the higher branches of horticulture. At the time of my visit the camellias were the glory of the greenhouse; the collection of which is large, and in excellent condition. The principal stage was filled with a promiscuous collection of greenhouse plants, generally cultivated. I observed nothing new among them, and very few, of what might be termed "fine specimens," according to the Chiswick definition of that term. In fact the form of the house renders the growth of fine specimens almost impossible; as a matter of necessity the plants were placed too thickly together, (a circumstance much too common,) but the effect they produced "*en masse*," was excellent. The healthy appearance of the whole, and the unscrupulous cleanliness and neatness which was every where manifest, and this too, at a season when visitors were least to be expected, reflected much credit on the taste and attention of the foreman in charge of them.

I have said that the form of this house, as regards the growth of specimen plants, was decidedly objectionable, and its internal arrangements are equally so? Although the latter, under present conditions, are probably the very best that could be adopted,—for convenience and effect with good management they certainly are so—but without great care, and unwearied attention, the defects of the structure, as a plant house, would soon become very apparent. The amount of attention and labor required to produce the same effect in different houses, is but seldom appreciated to its fullest extent, and gardeners are sometimes censured for doing badly, what it was impossible for them to do better, while others are praised for doing well, what was only a natural result of the cause that produced it, and which, probably by any species of mismanagement could not have very well been otherwise.

There is one thing I observed here, and which I have seen practised elsewhere, viz., growing climbing plants under the glass. Now this practice is all very well when the climbers are confined solely to the rafters of the house, or to the pillars supporting the roof; but, as in this case, the whole roof was densely covered by a mass of roses, &c., trained to a trellis under the surface of the glass, and rendered almost impervious to the transmitted rays of light, the effect cannot be otherwise than injurious to the plants growing beneath it. I am fully aware, that my opinions on this point may be in direct opposition to those of many of my professional brethren, but experience has taught me the truth of what I have here asserted. In the stoves the collection of plants is rather limited, but we were gratified to learn that it has been recently much improved, by the addition of several new plants, and is to be still further augmented under the care of the present gardener: this house, however, was very gay for this season of the year, and its gayness much heightened by several good specimens of that conspicuous and beautiful winter flowering plant the *Poinsettia pulcherrima*, its scarlet *bracts* contrasting finely with the dark green, and healthy verdure of the other plants. This is decidedly one of the best winter flowering exotics we have, and cannot be too widely known. Here, also, I observed, a fine plant of the *Cycas revoluta*,—and some *crinum*s (*A. amabile*) the finest I have seen; they were just coming into flower.

The Vineries were well worth looking at, though even at this early season when not in fruit. Here were canes, worth calling canes; not half ripened, pipe-stem rods, that might be crushed between your finger and thumb: wood well matured, plump eyes, short jointed, and just enough and no more than is necessary to fill the house well. That is the way that I like to see vines managed, and I would venture to warrant that these vines will produce creditable fruit. Back sheds are indispensable appendages to every gardening establishment, but it is seldom we find them so arranged, and kept in such a condition as to be perfectly answerable for all the purposes to which they might be applied. Here,

however, these arrangements are made with a due regard to order and convenience, as well as comfort to the workmen. The plants can be taken from the houses, shifted, and returned to their places, with the smallest amount of trouble. No garden can be complete without arrangements of this kind; although they are considered matters of secondary importance, and not unfrequently altogether neglected.

Behind the principal range of houses, there is a number of pits, built, originally, I believe, for growing pine apples. These pits are very commodious, and are turned to excellent advantage, for the purposes of propagation and for raising young stock for the stove and greenhouse; they were well filled with Geraniums, Calceolarias, &c., all luxuriating in a healthy, humid atmosphere. The grounds around the mansion are beatifully disposed, and planted with hardy evergreen trees: they contain many fine specimens of the coniferæ, both indigenous and imported: indeed, the whole place displays in a very striking degree, the taste and liberality of its wealthy proprietor.

Mrs. Pratt's Residence, nearly opposite that of Mr. Cushing's, is one of the most picturesque places around Boston; presenting a beautiful combination of sweeps and formalities, curves and zig-zags, hills and hollows, the effect of which is considerably increased by the continuous undulations extending over the whole surface of the surrounding grounds. The mansion being situated upon an eminence, commands an extensive view of the country around. The landscape for a considerable distance is ornamented with, and broken by, individual trees, clumps, and masses of cedars and pines, which, in summer, must have a fine effect, when contrasted with the lighter foliage of the deciduous trees. The house is approached by a very beautiful drive, winding gracefully through the trees, forming a sort of serpentine avenue, after the Reptonian fashion. These kind of carriage roads are rarely to be met with in America, except in a form which may justly be called a ludicrous burlesque upon the intended style. This road rises with a gradual and easy ascent, towards the mansion, and is well worthy of imitation.

The garden lies to the rear of the house, and is still more elevated. A large greenhouse has recently been erected, and is already well filled with a good collection of plants, among which, I observed some fine specimens of *Camellia*, *Acacia*, *Stephanòtus floribündus*, &c. Vines are also grown in this house, and from their appearance, their culture seemed to be no unknown secret to Mr. McLennan the gardener; and, though but recently planted, had borne good crops, and made fine wood. Mr. McLennan showed us a vine which had been grafted the previous season, and had made a cane of great strength, and thickness. Vine grafting is worthy of more attention than it generally receives, not only for the purpose of changing the products of inferior sorts, but also in hardening the more tender varieties. We have many instances of delicate plants being so much invigorated, by being wrought upon robust stocks, that they appear perfectly changed in their habits and constitution from the originals; and many instances which have come under my own experience and observation, have satisfied me that this is peculiarly the case with regard to the vine. There are many things about this place worthy of notice, and present themselves to the stranger, even on a winter's day. Mr. McLennan is one of those intelligent practical men, with whom visitors like so much to converse, who says much in a few words, and imparts a great deal of valuable knowledge, without making any great effort to do it. He is one of those gardeners who are not easily discouraged, and who acts upon the principle that "Success never follows those who are continually meeting lions in the way:" and he turns every thing to the best advantage, regarding both mishaps and difficulties with a stoical indifference. No qualification merits greater praise.

Mt. Auburn Cemetery.—In passing the celebrated cemetery of Mount Auburn I took a glance at that magnificent resting place of the dead; unequalled in extent and romantic beauty, perhaps by any cemetery in Europe; and I have seen some fine ones there. Its scenic effects are remarkably striking. The picturesque undulating surface of the ground

is strikingly characteristic of the neighboring country, and though the forest trees were stripped of their summer garments, and the rusty brown cedars presented a dreary and melancholy aspect, as their forms were reflected against the snow-covered summits of the numerous elevations, still there was ample food for reflection,—and for admiration too. The very trees and shrubs had an aspect of melancholy and silent solemnness, as if they were conscious of the consecrated ground on which they grew. The pines,—the cypress and the cedars, seemed to partake of the sacred solemnity of the graves over which they hung; and as they shadowed with their embrowned canopies the hallowed resting places of the departed, their silent voices conveyed a lesson more touching and impressive, than the most learned philosophy could impart.

The Nurseries and Grounds of Messrs. Hovey at Cambridge, near Harvard Colleges, about two miles from Boston, are also well worthy of a visit. This establishment, which covers about thirty-six acres in the heart of the city, has now attained a deservedly conspicuous position, solely by the assiduous labors of its proprietors, who have spared no pains or expense to perfect every branch of the nursery business. It is only by visiting, and comparing one establishment with another, that one is able to appreciate in a right degree, the services of those who have contributed to the improvement of gardening and its various productions; and there is abundant evidence that the proprietors of this establishment have been, and are still, zealous in their endeavors to introduce every thing worthy of cultivation from abroad, or to be obtained at home. They have just erected and completed one of the largest span-roofed houses in the country, being ninety-six feet long and thirty feet wide, chiefly for the growth of specimen plants, for which purpose it is well designed. It already contained a large collection of plants, among which were some specimens of considerable merit. To particularize and describe every individual plant worthy of being noticed, would occupy too much space. I will briefly mention a few which caught my eye, more conspicuously than the rest :—

Acacia cultræformis, a beautiful glaucous leaved, deep yellow flowered species; *Abutilon venosum* superb plants, six feet high, in full flower; *Chorizema varium nana*, fine, from its dwarf habit; *Kennédya grandiflora*, *K. racemosa*, and *K. nigricans*, the latter newly introduced, were just coming into bloom; *Gesnéra oblóna*, is a fine late flowering plant, and the specimens were two feet high, and as much through. Two of the very finest things were the *double white*, and *double purple* Chinese primroses, of which the specimens were indeed superb, and reflected great skill upon the cultivator; they were in pots twelve inches across and one mass of bloom, almost as double and beautiful as the *ranunculus*. *Begonia fuchsioides*, *B. sanguinea*, *B. coccinea*, *B. manicata*, and several others of this fine winter flowering tribe, were fine, but more particularly *B. fuchsioides*, which was covered with its depending scarlet blossoms, so much resembling some of the fuchsias, as to have that name applied to it. A brilliant thing was the *Tropæolum Lobbianum*, with deep scarlet flowers. The Japan lilies, of which Messrs. Hovey have more than a thousand seedlings, of various crosses with the hardy kinds, were now, some of them, just being potted, for ornamenting the greenhouse and conservatory in summer. A specimen of *Acacia pubescens*, is probably the best in the country, being fifteen feet high, with its branches wreathed with flowers, hanging nearly to the ground. *Leschenaultia formosa*, twenty inches high, and four feet in circumference, filled with thousands of flowers, was a superb object. The roses, of which there are thousands, were not yet in bloom.

In the Camellia house, which is upwards of eighty feet long, with a span-roof, and built in the Grecian style, with glass on all sides, were some good plants: a very large double white, about ten feet high, and of beautiful proportions, which I regarded with a wistful eye; it was splendidly bloomed. The stock of camellias is very large and in excellent condition. Messrs. Hovey have raised a great number of seedlings, some of which are said to be unequalled for color and form, but with the exception of one, which struck me as being remarkably fine, they were not yet in bloom. The collection of Azaleas contains a large number of superb

sorts, and quite a number of seedlings, none of which, however, were yet in flower. Heaths, Acacias, Epacris and numerous other subjects filled this house.

I must not omit the collection of Pelargoniums, which, however, is too well known to render any remarks of mine necessary. In one batch, of about 500 plants, were all the latest varieties of Beck, Storey, Lyne and Foster, the celebrated English growers. These plants were in fine trim, dwarf, stubby, and having leaves of a deep dark green hue, indicative of constitutional vigor and healthiness. The collections of these plants here, is, I believe, unrivalled by any other in America, and is well worthy of its wide spread reputation.

In the Fruit department, I was astonished to find such an extensive collection of specimen trees, of pears, apples, cherries, peaches, plums, &c.—but more especially of pears. We hear a great deal about the *specimen grounds*, of nursery men, and being fond of these subjects, I have travelled some considerable distance to see them, both in this country and in England, but have found their existence only in catalogues and advertisements. I confess, therefore, I was not prepared for the *coup-d'œil* which was here presented to me.

The walks are laid out at right angles, and bordering them on each side, at the distance of three feet from the edge, the trees are planted in rows,—just six feet apart for the pears and plums; and eight feet for the apples, cherries, and peaches: all are dwarfs, even the cherries, branching within a foot of the ground; and the effect, therefore, in summer, when the trees form almost a perfect belt of foliage and fruit, can be better imagined than described. Many of the trees have been accurately figured in Mr. Hovey's splendid work, the *Fruits of America*, and they faithfully represent the peculiar habit of growth of each variety.

The pear trees were well proportioned, some of them being perfect pyramids, and would do honor to any private garden in the land; they seemed to be in good soil,—were healthy, without being too gross and luxuriant,—and were thickly set with flower buds, giving every promise of a good

crop the coming season. In recording my opinion of these trees, however, I must also record the opinion which I there expressed, viz., that they were for the most part rather too thickly set with branches,—*too full of wood*, as gardeners term it. This is a fault which is almost every where perceptible, both in public and in private gardens, and it convinces me that the propriety of keeping fruit trees thin and open among their branches, is not fully appreciated, nor the theory of the matter generally understood. The collection of specimen trees, however, in the grounds of Messrs. Hovey, is undoubtedly the best I have ever seen, and those interested in such matters will be highly gratified by looking at them. When it is taken into consideration how much labor and time are required to keep such an unusual number of trees in order,—numbering upwards of *two thousand*,—the fault which I have alluded to,—if so it may be termed,—may well be overlooked. The object, in many instances, is not to possess a very symmetrical tree, particularly of the newer varieties, but rather to keep them in a limited space, so that they may be brought speedily into fruit, and their qualities tested as soon as possible, to be afterwards grafted with fine sorts, should they prove inferior kinds.

The different methods of heating adopted at these places, are chiefly hot water pipes and smoke flues, under various modifications. The Polmaise method appears to be regarded with suspicion and distrust,—and not without good cause. They will act wisely who adhere to the older and well proved modes and let Polmaise alone. I speak from experience, and with confidence,—for I know what it is. But as I intend to say something on this subject bye and bye, I will leave it for the present.

Residence of Col. T. H. Perkins, Brookline.—The next place I visited was that of Col. Perkins. The gardens here are also very extensive, and the extent of hot houses, probably greater than at that of Mr. Cushing's. They appeared to have been somewhat neglected of late years, but a liberal and judicious system of gardening is now carried on, and many cultural improvements are in progress by the present

gardener, Mr. Cowan. The general arrangement of the horticultural buildings is less systematic than at Mr. Cushing's, and less imposing in their appearance,—though their extent may be greater. A new poultry house, recently erected close by the garden, has really a most striking effect,—the design is perfectly unique,—its style of architecture is,—I don't know what, assuredly neither Gothic, Doric, Elizabethan or Ionic,—probably a mixture of all the four : It has a fine appearance, however, and looks very much like a Chinese Pagoda, without its colors. In the greenhouse were some good specimens of the older kinds of Erica, a very large double white Camellia, and a miscellaneous assortment of other greenhouse plants, in a good, healthy condition, and displaying plenty of blooms. The vines in the graperies looked well with fine, firm, well ripened wood, just such as one would expect to produce abundant crops from. My visit to this fine place was very hurried, having only a few minutes to spare, and I omitted many things highly worthy of notice and record, and displaying in a high degree the zeal and ability of the excellent manager of these gardens, Mr. Cowan. As a whole, it is a fine place, embosomed among beautiful and finely arranged woods, and altogether well worthy of the high reputation it has hitherto possessed.

In concluding my remarks on the gardens around Boston, I beg to say, that I have omitted many things in this sketch, from its length, which I might have inserted, and many more highly worthy of being recorded, which in my hurried visits, I necessarily overlooked. It is evident that under the fostering care of the Boston amateurs, and their excellent Horticultural Society, gardening holds a higher position, than in any other part of the United States. Some may doubt, and even dispute this statement. But I will ask,—where is the place that excels it?

It is to be regretted that there is such a general apathy and indifference with many individuals towards gardening and gardeners. Too many persons are disposed to underrate the labor and skill of this class of men, treating with indifference their learning, intelligence and practical knowledge : and

are too unwilling to promote those interests which contribute to their own welfare and pleasure. The time is not far distant, however, when the hopes of the best friends of gardening will be realized, when the science of the culture of the ground, and the creation of natural landscapes and gardens will be carried out to the admiration and delight of all who will admire and take pleasure in them. The gardens which I have here noticed,—fine although they be,—are but the precepts and examples of others still finer than themselves; and though gardening as a science, or as an art, imparts neither honor, nor influence in a speculative point of view, to those who patronize it, yet it has patrons and admirers not a few among the learned,—the good,—and the great,—who consider it no reduction of their dignity to be the friends of gardeners,—to promote gardening, and even to engage in its practical operations. But I am digressing from my point: I have already tired your editorial patience, by the length of this communication, so I will throw down my pen, and remain yours, appreciating as I do, your endeavors to improve and elevate the standing and skill of professional gardeners.

New Haven, January, 1850.

ART. II. *Descriptions and Engravings of Select Varieties of Apples.* By the EDITOR.

WE continue our description of Apples from our last volume:—

XXVII. JONATHAN. Kenrick's *American Orchardist*.

Philip Rick, } of some American collections.
King Philip, }

IN a letter under date of March, 1848, Mr. Manning writes us as follows:—"I send you a few specimens of Judge Buel's favorite apple, the Jonathan, which I do not recollect that you have yet particularly noticed. I have found it dis-

tinguished for the qualities of productiveness, beauty and long keeping. These I send you now I think you will find, perhaps, not quite so rich as the Baldwin, but more juicy and sprightly. I think the size will average about the same as the Baldwin, and I have found it keep about as well as the Roxbury Russet. I have a small tree (which you, perhaps, may have noticed) which presents a beautiful appearance when hanging full,—as it always does in a bearing season,—of its highly colored apples." Mr. Manning's specimens, though small, we found fully to sustain the character he has given the Jonathan; and the last year, having some larger samples from our own trees, we are enabled to give a full description of this excellent apple (*fig. 3*).

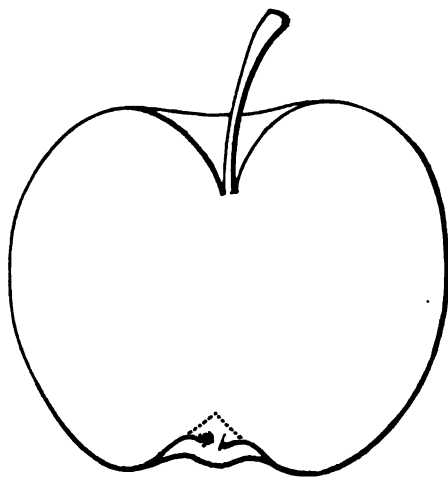


Fig. 3. Jonathan.

Judge Buel sent specimens of the Jonathan to the Mass. Horticultural Society in 1829, and stated that it was "an Esopus seedling, and sometimes called the New Spitzenberg." Subsequently Mr. Kenrick described it in the *Am. Orchardist*, on the authority of Judge Buel. It originated on the farm of Mr. Philip Rick, of Woodstock, Ulster Co., N. Y. and the original tree was growing there, a few years

since. It was named in honor of Jonathan Harbrauck, Esq., from whom Judge Buel first received the fruit.

The Jonathan is one of the richest colored and most beautiful of our native apples. The trees are good growers, making vigorous, though rather slender, wood, and come into bearing early, compared with most apples. It is a variety admirably suited for dwarf trees, as it naturally forms a low and compact head. Wood, light brownish chestnut.

Size, medium, about two and a half inches broad, and two deep: *Form*, roundish, regularly shaped, narrowing little to the eye: *Skin*, fair, smooth, with a deep yellow ground, nearly or quite covered with bright red, shaded with crimson and purplish red on the sunny side: *Stem*, medium length, about one inch long, rather slender, curved, and deeply sunk in a rather contracted, regularly formed cavity: *Eye*, rather small, partially open, and considerably sunk in a furrowed basin; segments of the calyx short: *Flesh*, white, sometimes tinged with red, fine, crisp and tender: *Juice*, abundant, rich, subacid, sprightly and very high flavored: *Core*, small, close: *Seeds*, medium sized, oblong, flattened. Ripe from December to May.

XXVIII. ESOPUS SPITZENBERG. Cox's *View*, &c.

Esopus Spitzemberg, Hort. Soc. *Cat.* 3d Ed.

Esopus Spitzemberg, Kenrick's *Am. Orchardist*.

Esopus Spitzenburgh, *Fruits and Fruit Trees of America*.

The *Esopus Spitzenberg*, (*fig. 4.*) is one of the most famous of American apples, and ranks with the Baldwin and Newtown pippin, among the best varieties which have been produced. It originated at *Esopus*, on the Hudson river, a locality celebrated for fine apples, and has been very generally disseminated through the Middle and Western States. In New England it has not yet been very extensively grown. An impression has prevailed that it can only be raised in fine condition near the place of its origin, and Mr. Coxe remarks that it "is supposed to deteriorate when transplanted to the south of the Highlands on the Hudson River." Great quantities are raised throughout New York State, where it is

highly esteemed, and the Eastern Markets are supplied from this source; those of fine quality always commanding a high price and quick sale. Recently quite a number of trees of this apple have been planted in the orchards of Massachu-

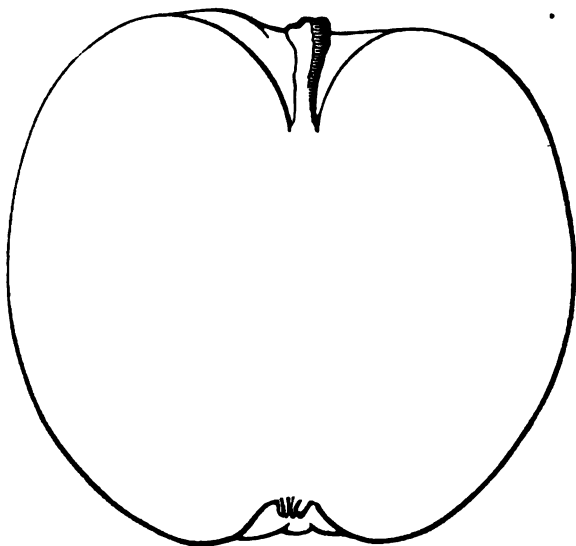


Fig. 4. *Esopus Spitzenberg.*

setts, and an opportunity will soon be afforded of satisfactorily ascertaining whether it will succeed as well as in New York.

The Tree has a very erect, upright habit while young, with rather slender, dark colored shoots; but when full grown the branches become somewhat pendulous.

Size, large, about three inches broad and three deep: *Form*, oblong, slightly ribbed at the base, and narrowing little to the crown: *Skin*, fair, smooth, rich deep brilliant red, approaching to scarlet, indistinctly streaked with crimson, and regularly covered with large, prominent, somewhat oblong yellow specks: *Stem*, rather short, about half an inch long, projecting scarcely beyond the fruit, moderately stout, and deeply inserted in a rather contracted cavity: *Eye*, small,

closed, and sunk in a deep, somewhat abruptly depressed and furrowed basin; segments of the calyx twisted: *Flesh*, yellow, crisp and rather fine: *Juice*, abundant, brisk, subacid, high flavored and excellent: *Core*, large, rather open. Ripe in December and keeps till February.

XXIX. RED GILLIFLOWER. *Mag. of Hort.* Vol. VII. p. 49.

Scolloped Gilliflower, according to Thomas's *Fruit Culturist*.
Black Gilliflower, of some collections.

Although the Red Gilliflower (*fig. 5.*) is ranked by Pomologists as only a second rate apple, yet the extent to which it is cultivated, as well as the estimation in which it is held,—

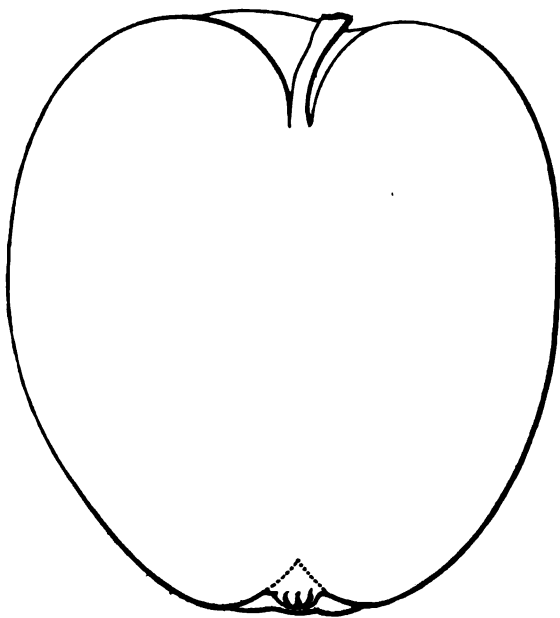


Fig. 5. Gilliflower.

if its ready sale in our markets can be considered any criterion of a popular apple,—induces us to give some account of it.

The Gilliflower, like many other excellent varieties is only cultivated extensively in Western New York, where it probably originated, and is but occasionally found in the orchards of New England. The Eastern markets are annually supplied with it from New York, and its large size, good appearance, and very *tender* flesh, render it a favorite with many who dislike the firmer texture of the Esopus Spitzenberg and Newtown pippin.

Mr. Manning first gave a brief description of it, in one of our early volumes, (VII. p. 49,) in his account of upwards of one hundred varieties of apples which had fruited in the Pomological Garden, and he characterized it as a "winter fruit, much prized in some parts of the country." Subsequent writers have noticed it, but they appear to have copied Mr. Manning's remarks, without adding anything new, either as regards its origin or merits.

Size, large, about three inches broad, and three and a quarter long : *Form*, conical, little flattened at the base, occasionally ribbed, and tapering much to the crown, which is quite small : *Skin*, fair, smooth, with a dull red ground, very finely striped on the sunny side with dark purplish red, sometimes little russeted around the stem, and covered with small yellowish specks : *Stem*, short, about half an inch in length, rather stout, curved, and inserted in a somewhat angular, moderately deep and contracted cavity : *Eye*, small, closed, and slightly depressed in a shallow furrowed basin ; segments of the calyx short : *Flesh*, white, rather coarse, and very tender : *Juice*, tolerably plentiful, pleasant, subacid, with an agreeable, spicy aroma : *Core*, large, rather open : *Seeds*, medium size, plump. Ripe from November to February.

In some localities in New York, this is sometimes called the Black Gilliflower, from its dark red skin ; and the *Catalogues* of several nurserymen enumerate it under the same name.

ART. III. *Notes on some Varieties of Peas grown in the Garden of the Horticultural Society in 1849.* By ROBERT THOMPSON, Superintendent of the Orchard and Kitchen Garden Department. From the Journal of the London Horticultural Society.

A GREAT number of new varieties of peas have been introduced to notice within a few years, some of which are really distinct and excellent sorts, while many of them, and perhaps the greater part, are so much like the older kinds, that they are not deserving of a name. Among the mass of kinds it is difficult to tell which are the good, and which the inferior ones, only from actual experience; and this experience few individuals have the time or the opportunity of acquiring. Luckily the London Horticultural Society have considered this as one of the duties to be accomplished by its experimental garden, thus relieving cultivators from the labor of doing so. The first experiments with the pea were made several years ago, and the results published in the *Transactions* of the Society, a copy of which will be found in one of our earliest volumes (II. p. 427). All the varieties having any reputation at that time, numbering forty-three, were fully described, the period of their maturity and other particulars given, by Mr. Gordon, the Superintendent of the Kitchen garden department of the Society.

Six years ago, (Vol. X. p. 91,) we detailed the results of our own experiments with six varieties of peas, among which were the Prince Albert and other new and rare kinds, which had not then been proved in the Society's garden: and as bringing up the experiments to the present time, we now have the pleasure of giving an account of a trial of all the new sorts, made last year under the direction of Mr. Robert Thompson, in which the peculiarities of each are accurately described, and their relative merits compared. After reading this, cultivators will be able to make their selections so as to include all the best, and at the same time produce successive crops throughout the season:—

The names of many new varieties of Peas having lately appeared in seed-lists, it was considered desirable to grow as many of these varieties in the Society's garden as could be collected in the present season, in order to ascertain their respective merits. Accordingly, about forty packets, including some of the old sorts for the purpose of comparison, were sown on the same day, March 21st. Abundance of rain fell in April and May, and the plants in consequence made a fair healthy growth, but their podding of course was later than would be the case in hotter and drier seasons. They were sown rather thinly than otherwise, and the pods were generally well filled. On the whole, the circumstances were favorable for correctly estimating the properties of the different sorts.

Bishop's New Long-pod.—This was presented to the Society by Mr. John Ronalds, of Brentford; sown March 21st; fit for use June 28th; about 2 feet high; pods nearly straight, almost cylindrical, containing 6 to 7 peas. An excellent prolific early dwarf white pea; far superior to Bishop's Early Dwarf, which, doubtless, it will soon entirely supersede.

Thompson's Early Dwarf.—Received from Messrs. Sutton and Sons, Reading; sown March 21st; fit for use June 28th; about 2 feet high; pods small, round, containing 4 to 5 medium-sized white peas. A tolerably prolific variety, but not equal to the preceding.

Prince Albert.—Received from Mr. Kernan, Covent Garden; sown March 21st; fit for use June 20th; about 3 feet high; this and the Early Kent appear to be varieties of the Early Frame. They are, however, not quite so tall as it, and they ripen at least a week earlier. Valuable for its earliness.

Early Warwick and *Early Race-horse.*—These proved to be, generally, the Early Frame.

Early Hero.—Presented by Mr. Glendinning; sown March 21st; fit for use July 6th; height 5 to 5½ feet. This is not a very early pea; it is, however, a good bearer; pods slightly curved, a little flattened, containing 6 to 7 medium-sized white peas of good quality.

Doigt de Dame (Lady's Finger).—Received from M. Vilmorin, of Paris; sown March 21st; fit for use July 4th; from 5½ to 6 feet high; pods long, cylindrical, containing 6 to 7 white peas. A good pea, but does not bear so abundantly as some others.

Shilling's Grotto.—Received from Mr. Kernan, Covent Garden; sown March 21st; fit for use June 27th; grows to the height of 4½ or 5 feet; pods short, thick, but badly filled, containing 4 to 6 white peas. A bad bearer this season.

Grimstone's Egyptian Pea.—Presented by Mr. Grimstone, Herbary, Highgate, accompanied with a pamphlet, in which it was stated that the peas under the above name, were part of the product of one of three peas that were found among the dust, on opening a vase presented by Sir Gardner Wilkinson to the British Museum; the characters on this vase proved it to be 2844 years old, or upwards, during which period it had lain buried in a mummy pit. A few of the peas received at the Garden were sown in 1848; but they did not thrive well, owing to the very dry weather in the early part of the season. Their habit of growth so much resembled that of the Dwarf Branching Marrow, that it was this year thought advisable to sow both side by side. With every advantage of comparison thus afforded by the proximity of the plants, no difference could be observed between Grimstone's Egyptian Pea and the Dwarf Branching Marrow. The growth of the plants, their foliage, flowers, pods, and seeds exhibited precisely the same characteristics.

Dwarf Branching Marrow, Syn. *New Dwarf Branching Marrow.*—Received from Mr. Glendinning; sown March 21st; fit for use July 2nd; about 2 feet high; stems strong, with short joints; leaflets broad; flowers large, rather tufted, on short peduncles, cream-colored; pods nearly straight, flattish, containing about 6 middle-sized white peas. Only a moderate bearer.

Queen of Dwarfs.—Received from Mr. Kernan; sown March 21st; fit for use July 20th; about 18 inches high; pods large and flat, containing only 4 to 6 large white peas. A moderate bearer.

Bellamy's Early Green Marrow.—Received from Messrs. Sutton and Sons; sown March 21st; fit for use June 30th; from 4½ to 5 feet high; pods long, straight, cylindrical, containing 6 to 7 peas, some of which when ripe and dry are white; others are olive-green. A good bearer, and on the whole an excellent early pea.

Sutton's Superb Green Marrow.—From Messrs. Sutton and Sons; sown March 21st; fit for use July 14th; from 5½ to 6 feet high; pods flattish, nearly straight, containing about 6 large peas; olive-green when dry; bears tolerably; but the peas, in a young state, are not sufficiently sugary; on the contrary, they have a little of the harshness peculiar to the wild or grey pea. It is therefore not to be recommended.

New Indented Green Marrow.—Presented by Mr. Glendinning; sown March 21st; fit for use July 18th; about 5 feet high. A good pea, resembling Knight's Green Marrow; but the peas, when green, are not so sugary, and when dry they are less indented.

Victoria Marrow.—Received from Mr. Kernan; sown March 21st; fit for use July 24th; height 6 to 6½ feet; pods nearly 4 inches in length, generally in pairs, straight, roundish, containing 6, 7, or 8 large peas of good quality; olive-green when dry, and slightly indented. This variety bears some resemblance to Knight's Tall Marrow; but the pods are larger and remarkably long and well filled; like all others it is less sugary than Knight's; still the quality is very good. It is a most abundant bearer; and when we take into consideration the length of pods, the number and size of the peas they contain, it must be admitted that this is a remarkable sort, highly deserving of cultivation.

Flack's New Large Victoria.—Presented by Mr. Glendinning; sown March 21st; fit for use July 2nd; height 2½ to 3 feet; pods middle-sized, flattish, nearly straight; peas generally 6 in a pod, large, compressed, blue when dry, and some partly white. A very good prolific dwarf variety.

Bedman's Imperial.—Received from Mr. Glendinning and from Mr. Kernan; sown March 21st; fit for use July 14th; from 2½ to 3 feet high; pods somewhat curved,

roundish, containing generally 6 to 7 large blue peas of good quality. An excellent bearer; a variety well deserving of recommendation.

New Imperial.—Sown March 21st; fit for use June 30th; height 3½ feet; pods small, cylindrical; peas blue. On the whole, this variety is inferior to many others.

Maclean's Seedling.—Presented by Dr. Maclean, of Colchester; sown March 21st; fit for use July 3d; height 2 feet; pods large, nearly straight, a little flattened; peas very large, compressed, of excellent quality, indented when dry, and of a bluish color. A valuable prolific dwarf variety.

British Queen.—Received from Mr. Kernan; sown March 21st; fit for use July 23d; about 5 feet high; pods large, straight, nearly round, containing generally 7 very large peas, nearly the size of small beans, indented when dry, and of a light olive-green color. A good bearer. This bears considerable resemblance to Knight's Marrow; but differs in the peas being larger, somewhat thicker in the skin, and scarcely so sugary; it is, however, a valuable sort for those who prefer large peas.

Gros Vert Normand.—Received from M. Vilmorin, of Paris; sown March 21st; fit for use July 20th; height about 6 feet; pods slightly curved, rather flat, containing 5 to 7 large peas, of a bluish-green color when dry. A tolerably good bearer, and might prove useful as a late pea.

Fairbeard's Champion of England.—Received from Mr. Glendinning; sown March 21st; fit for use June 30th; about 5 feet high; pods long, somewhat curved, and slightly flattened, containing 7 to 8 large peas of very sugary quality, indented, and of a bluish color when dry. An abundant bearer, highly deserving of cultivation.

ART. V. *Pomological Gossip.* By the EDITOR.

WHAT IS THE LARGE EARLY SCARLET STRAWBERRY? At the recent meeting of the Pomological Congress in New York,

three varieties of Strawberries were added to the List of Fruits worthy of general cultivation: these varieties were the Large Early Scarlet (as reported by the general Committee,) Hovey's Seedling and Boston Pine. The two first of which were unanimously added to the list, and the last, with but a *single* dissenting vote, and that by Mr. T. Hancock of Burlington, New Jersey, who said he had found it a shy bearer on his sandy soil. It was highly gratifying to find our seedlings so highly appreciated and eulogized, by gentlemen from almost every state in the Union.

But the question arises, what is the Large Early Scarlet? The Massachusetts State Committee, among whom were S. Walker, Esq. President of the Massachusetts Horticultural Society, and Mr. R. Manning of Salem, reported the Early Virginia, as one which should be added to the list: and the same fruit was afterwards reported as the Large Early Scarlet. The vote, we have said, was unanimous; but yet it was a singular one. Gentlemen from New England stated that it was synonymous with the Early Virginia, one of our earliest varieties, and they voted for it, knowing it to be so from their own experience. On the contrary, gentlemen from New York and the West, denounced the Early Virginia as a "*worthless berry*," and in no way to be compared to the Large Early Scarlet. The question then was, were they different in quality, or only in name? and on this point, Mr. Barry, of Rochester, stated they were very different fruits; as he had had plants of the Early Virginia from Boston, and they were quite unlike his Early Scarlet; so that while half of the members of the convention were voting for the Early Virginia which the other half pronounced worthless; that half were voting for a variety that the other knew nothing about. For our own part, we do not believe there is any difference between the Early Virginia and the Large Early Scarlet. The former is certainly not a "*worthless*" berry, though we do not think it worth cultivation only on very light sandy soils, which are likely to be affected by drought. In good ground the Boston Pine will produce twice as much fruit, and quite as early as the Early Virginia, to say nothing

of its superior size, flavor and beauty, and its greater value in the market.

THE HANNERS PEAR.—In our volume for 1846, (XII. p. 150,) our correspondent, Mr. Manning, gave a list of synonyms of pears, which he had detected in the Pomological Garden, and among the number was the Hanners, which he stated was nothing more than the Cushing, one of our oldest native varieties. In a note to his communication, he stated that “this must have been an error, as the true Hanners was a different fruit from the Cushing.” Knowing the accuracy of Mr. Manning, however, on all questions concerning the synonyms of fruits, we intended to refer to the subject again, after we had examined both his trees and our own, but from various causes we have not done so; and therefore seize the opportunity to confirm the truth of Mr. Manning’s observations.

Some years ago, when making up our collection of pear trees, we procured all the American varieties we could find in our Nurseries, and among the number was the Cushing, which we had from Messrs. Downing, of Newburgh. This was in 1842. The tree was placed with others in our specimen collection, and grew away rapidly, but did not come into bearing till 1847, a year after Mr. Manning’s communication was written. We had previously described and figured the Cushing, (Vol. IX. p. 371,) and the Hanners, (XIII. p. 490,) and in our account of the latter variety, we alluded to the opinions of some of our Pomological friends in Salem, who had even then intimated the identity of the two pears. We admitted that the Hanners did greatly resemble the Cushing, “having the same melting flesh and yellow skin.” But what set all doubts at rest, we remarked, was the difference in the “color of the wood, and form of the leaf;” for while the shoots of the Hanners were “upright and of a dull *yellow*, those of the Cushing were partially spreading, and of a dull *red*; that the leaves of the Cushing were considerably serrated, while those of the Hanners were nearly entire.”

In making out this difference of the Cushing from the Hanners, we based our information upon the character of our

own tree, and believing it to be true to name, from the source we obtained it, we could not reconcile the similarity; and we maintained their distinctness until our tree came into bearing in 1847, when it proved to be the Bloodgood! Our views were then immediately changed, and upon an examination of the Cushing, in Mr. Manning's garden, not having it in our collection only under the name of Hanners, we were convinced that he was right. Other opportunities have since occurred to settle the question beyond doubt. We are therefore happy, even at this late hour, to do justice to Mr. Manning's discriminating judgment in the detection of the synonyme.

The question then arises, where did the tree in Mr. Hanners's garden come from? The Cushing was first introduced to notice by Mr. S. Downer in 1829, while the Hanners, so called, had been in bearing more than twenty years, and the fruit had been sold in Boston market under the name of St. Michael for a long time. In our account of the Hanners pear, gathered from Mr. Hanners himself, we stated that the tree was one which he procured from the garden of his neighbor, Mr. Webb, and had never been grafted. But from the age of Mr. Hanners, and his confusion of facts in regard to the tree, the statement we gave was that which we could best gather from him. We think, however, that he stated he purchased two small pear trees in the market, and, if so, one of them might have been a sucker from the original Cushing, or have been grafted by some person, who, even at that early day, knew the merits of the variety. In no other way can its existence in Mr. Hanners's garden be accounted for.

THE EASTER BEURRE' PEAR.—No pear has been more unjustly abused than this. Acknowledged to be, when well ripened, the finest of all winter pears, it would naturally be supposed that considerable pains would be taken to raise so valuable a fruit. Yet often we hear it condemned as an uncertain variety, scarcely worthy a place in a good collection. Mr. Rivers, an English nurseryman of some experience, stated that "he thought it a splendid pear, and one that must

always sell well ;" and he grafted three or four hundred trees with it. The grafts grew well, "bloomed bountifully, bore a fine fruit, which *was hard and never ripened.*" After several years' trial they were grafted with the Beurré Capiaumont ! Now with some inexperienced cultivators, who know but little about growing pears, and much less about ripening them, such a proceeding would be only what might be expected. But that Mr. Rivers should commit such an act, must surprise every intelligent cultivator. The Beurré Capiaumont preferred to the Easter Beurré ! Truly there is no accounting for tastes.

For four or five successive weeks, specimens of the Easter Beurré have been exhibited before the Massachusetts Horticultural Society, which were ripened by Mr. D. T. Curtis of Boston ; they were taken without regard to size, as picked from the tree, some of them knurly, indifferent specimens, and others large and perfectly grown ; yet they were all *ripened* ; that is, the small ones which ordinarily are thrown away, were in as good condition for eating,—though of course, not as excellent—as the large and fair pears, showing conclusively that the general complaint about their *hardness, shrivelling up, &c.*, is no evidence of the poorness of the fruit, but rather the want of a knowledge how to ripen the crop.

Our correspondent, Mr. Washburn of Plymouth, informs us that he has just sold the last of his Easter Beurré pears, the produce of *one* dwarf tree. They brought him the handsome sum of twenty dollars ; and less than a bushel of fruit. He finds no difficulty whatever in ripening the pears ; his practice is to let the fruit hang on the tree as late as possible, even after two or three frosts, if they are not likely to be very severe. They are then carefully gathered, each pear wrapped up in double papers, and then placed away in a cool room, kept at an even temperature, where they are allowed to remain until they are wanted for use ; they are then brought into a warmer temperature, where, in the course of a fortnight they begin to change color, and soon after become fit for eating. In this way, they may be ripened off in succession, from the middle of December to the middle of March.

Mr. Rivers says, that in England "the *million* seem to buy pears in the *autumn* only;" this is undoubtedly true, for in that climate there is little other good fruit to be had, even at that season, only at prices at which the *million* cannot buy. But supply Covent Garden Market with peaches at 50 cents per bushel, Porter and Fall Pippin apples at the same price; Isabella grapes at three cents per pound, and melons at six cents each, and we fancy *autumn* pears would pay full as small a profit as *winter* ones.

In this country, therefore, we are not to be guided wholly by the experience of English cultivators; our fine climate brings to perfection all the fruits of temperate regions, and an abundance of fine peaches, delicious grapes, and other fruits are supplied throughout the autumn. It should be the effort, therefore, with American cultivators, to produce those fruits which will furnish a supply during our long winters, and for this purpose none have a greater claim for the preference, than such pears as the D'Aremberg, Glout Morceau, Winter Nelis, Monarch, Beurré Rance, Easter Beurré, &c.

THE WINTER HARVEY APPLE.—A fine variety under this name, has been brought into Boston market for several years, from Maine, and they have always commanded a liberal price, both from their fairness and excellence. A few years ago, Mr. W. Kenrick sent some of the apples, which he received from Maine, for exhibition before the Massachusetts Horticultural Society, and he also gave us one of the specimens. We found it to be a fine fruit; and we should have given a description and figure of it before this, only that we have been waiting to ascertain if it was a new and distinct variety. Since a communication has been opened by Railroad to Vermont, the facilities of travel have brought many of the intelligent cultivators of that fine country to the city, and great quantities of produce have been forwarded, including large quantities of apples, of which the stock has been so limited in this neighborhood. Among them we have been surprised to find many barrels of the same kind we had from Maine, and called, in Vermont, the Winter Pippin. One gentleman informs us he had *twenty bushels* from one tree. The apple

is of large size, somewhat conical form, with a smooth green skin, slightly suffused with blush, and possessing a rich subacid flesh and excellent flavor. It is just now in perfection, but will keep till March. We shall, now that we have learned more in regard to it, describe and figure it in a short time.

JOSLING'S ST. ALBANS GRAPE.—In our last volume we have copied several papers from our foreign journals, in which all the writers agree that this grape, about which so much has been said,—and from which so much money was made, (upwards of \$10,000,) by the said to be originator, Mr. Josling,—showing that it is nothing more than the Chasselas Musqué, of the old authors. Mr. R. Thompson, on whose endorsement of its excellent qualities and distinctness as a new grape, most cultivators purchased their vines, has written an article in a late number of the *Journal* of the London Horticultural Society, in which he gives an account of the original vine under the care of Mr. Josling, which he particularly examined, and he states, that after a careful comparison of the leaves of the Chasselas Musqué and the St. Albans, *no difference could be detected*. The article closes with a recommendation of the fine quality of the grape, which, if it should not eventually prove to be new, must ever be considered as well worthy of cultivation! This certainly is not very flattering to purchasers, who paid *one pound sterling* each for the vines.

When this variety was first brought to notice, we copied a full account of it in our Magazine, (Vol. XIII. p. 116,) and added, that “the description answered exceedingly well for the Muscat Blanc Hatif,” a variety we had cultivated in our collection, and which we then supposed to be new, but which has proved to be the old Chasselas Musqué; and by the last *Gardener's Chronicle*, we see Josling's St. Albans is pronounced, probably by Mr. Thompson himself, as identical with that grape.

That a variety so long cultivated should be so little known, is somewhat remarkable. And as the history of its introduction to English gardens may not be generally known, we copy the following from the North British *Journal of Horti-*

culture, by Mr. McIntosh, the Editor, which cannot fail to be of interest to all grape growers :—

A bunch of Grapes was also exhibited from the same place, to show a strange peculiarity in a sort, which has, from extraordinary circumstances, within the last 25 years, attracted considerable notice, and stands at present in rather an equivocal position. This grape is the *Chasselas Musqué* of the French gardens, a grape apparently unknown to our modern Noah's, from Langley, Speechly, &c., down to Mr. R. Thompson, the highest Pomological authority this country can boast of. It was enumerated by him in the earliest editions of the Catalogue of Fruits cultivated in the London Horticultural Society's Garden, and next after by Mr. Loudon, in the edition 1835 of "The Encyclopædia of Gardening," as furnished by Mr. Thompson. It was introduced into England by the London Horticultural Society, under the name above given.

Two circumstances in its history may be worth narrating. Mr. Thomas Fairbairn, who preceded us as gardener to the Prince Leopold of Sax Cobourg at Claremont, procured cuttings of this identical vine from a garden in Sussex, and believing it to be a new variety, as it had been represented to him, propagated a number of plants of it, several of which he gave us, which were planted in the Claremont gardens. The remainder of these plants found their way into the establishment of one of the most respectable commercial fruit cultivators in the neighborhood of London. This party believing also that it was a new grape, and one of great merit, propagated it extensively, and sold the plants at a guinea each. It is unnecessary either to give the name of the party, or that by which the vine was sold, as the idea of its being distinct from the *Chasselas Musqué* was no sooner known to that excellent person, than he repudiated it, and the name it held for a short time is now obsolete.

We continued, however, to grow it at Claremont as a supposed new variety, and there it obtained the name of the Golden Drop. Sir Charles Monke and the late Countess

of Tankerville, in walking through the Vineries at Claremont, and expressing their high opinion of its flavor, inquired its name. We could only reply that it was a new grape, for which we had no name. That excellent lady remarked that it ought to be called the Golden Drop. We believe we were the means of introducing this grape into Scotland under the latter name.

A year or two ago, Mr. Josling, a small nurseryman at St. Alban's, brought this identical grape out *again*, as a new variety, and sold it at a very high price, and hence the name of Josling's St. Alban's grape. Here we have an instance of the evil of fruits being allowed to exist under different names, as the Chasselas Musqué, the Golden Drop, and Josling's St. Alban's are identically one and the same. This grape has hitherto been admitted to be an excellent bearer, and possessing a very high musky flavor, but that it invariably cracked in the skin as soon as ripe and immediately decayed. Such a character we have given it ourselves from the fact that we had always found it so. This season, however, its character in this respect appears to have completely changed, for those ripened by the middle of September are still in high perfection, one of which is the bunch exhibited before the Society, and many such still continue on the vines. We have, perhaps, been a little too prolix in reference to this grape, but we think it our duty to make the circumstance known, that such of our readers as may have the vine, may be induced to continue its cultivation.

To this must be added that the party named in the above account was Mr. Wilmot, of Isleworth, who disseminated the vine under the name of Wilmot's Muscat Muscadine, at *one guinea* a plant, a price which we paid in 1844. In 1843 we received a vine from Mr. Buist, under the name of Muscat Blanc Hatif, which as we have said, proves to be identical; and in 1847 we had one from France called the Muscat Jesus, which is also synonymous. With all these facts, we trust hereafter it may be known only under its original name of Chasselas Musqué.

MISCELLANEOUS INTELLIGENCE.

ART. I. *General Notices.*

ON THE CULTURE OF MIGNONETTE IN POTS.—*Reseda odorata*, or the Mignonette, is a native of Egypt. It is an annual, growing from eight inches to a foot in height, and is quite hardy enough to stand this climate in summer, but it will not live through our winter, unless in some sheltered situation. In order to obtain a succession, recourse must be had to pot culture, which will form the subject of my remarks. The beginning of January is early enough to make the first sowing for a spring supply; the soil which should be used, should consist of equal parts of loam, dung, and leaf-mould, well mixed together; it would be well to mix a little sand with the compost when sifted. The pots should be from four to six inches wide for this sowing, and these should be prepared by placing a crock over the hole in the bottom, and laying on this about an inch and a half of the siftings; after that, fill them with the soil to half an inch of the rim; press it evenly and firmly, and on this sow the seed regularly; and if its quality can be depended on, eighteen seeds will be enough for each pot,—they will come up with more strength than if sown thicker. Sift a little soil over the seeds, and give it a gentle pressure with the hand, leaving the surface smooth and even; then give a watering (using the rose) with tepid water, which will warm the soil and assist germination; plunge the pots in a frame with a gentle bottom heat; give but little air until the plants begin to appear; afterwards give air more freely, according as the atmosphere will allow, avoiding, at all times, the admission of cold air in great currents, as mignonette suffers very much from rash exposure to cold winds. When the plants become a little hardened, take off the lights every fine day from eleven to one o'clock, which will prevent them from being drawn, and better enable them to support themselves. As soon as the seed-leaves are fully developed, thin out the plants, leaving, at this time, twelve or thirteen in each pot. This number should be kept for a while, as they are liable to damp off, if it should happen to be wet and dull weather. When they have made four or five leaves, thin them out to seven plants, which will be quite sufficient. At the same time, stir the surface of the soil, which generally becomes hard by continual watering, and thereby prevents the access of air to the roots. When the sun begins to act powerfully upon them, a thin shading for two or three hours during the heat of the day will be of great service by obstructing its rays, which give to the foliage a yellow and unsightly appearance. When they have attained the height of three or four inches, they must be tied up, to prevent them from falling over the sides of the pot; in doing this, put six small stakes, at equal distances, close by the edge of the pot; then pass a strip of matting with a turn round each of the stakes, and fasten it; the stakes should be left three inches at least higher than the plants, as they will require a second tie. If the roots have now found their way through the bottom of the pot, they must be broken off, or the plants will receive a

great check when finally removed. In re-plunging, give them sufficient room to prevent their being drawn: they will require great attention till the beginning of May, when they will, if properly managed, be in good condition for removing to the greenhouse. The next sowing should be made the latter end of March; the same compost as above mentioned should be used for this sowing; the same sized pots should be used, and the same number of plants allowed to remain in each pot; and the treatment already mentioned should be followed by the beginning of May. If the frames are wanted for other purposes, the pots may be plunged in some shady place in the open air; they will come into bloom the latter end of June. Other successional sowings may be made about the latter end of May and the middle of July; these may be placed in a sheltered spot out of doors, and with attention to watering, thinning, and tying, as above mentioned, they will come into bloom the beginning of August, and the middle of October. The last of these sowings should be removed to a frame as soon as there appears danger of frost. The next sowing, which is to provide plants for blooming through the winter months, should be made the first week in September. Great attention is necessary at this time, to prevent them from damping off, as *mignonette* is very liable to damp off in dull weather, and is likewise very impatient of water, which should be applied in the morning: then the foliage will become dry before night. For this sowing I should use smaller pots—giving them good drainage—and use the compost previously recommended. In preparing the frame for them, it should be raised well behind, so that it may incline nicely towards the south, for the purpose of gaining the benefit of the sun; the bottom of the frame should be covered with old rubbish of any kind, over this throw a lot of rough coal ashes, and on this place six or seven inches of sifted ashes. It must be arranged so that when the pots are plunged they may not be more than ten inches from the glass. When the seeds are vegetated, give as much air as possible, and the plants will begin to flower the latter end of November, and keep in good condition for more than two months. The last sowing should be made the latter end of September or beginning of October, using the same sort of soil and pots, and preparing the frame in the same manner as directed for the last. Great care must be taken in every respect, and by the latter end of February the plants will begin flower. The glass must be covered every night with mats, and some long litter put round the frame, to prevent the frost from injuring the plants. In being thinned, the plants should be left as near one size as possible in each pot, keeping the largest in some and the smallest in others; this will give a longer succession of bloom. If these remarks be attended to, a regular supply of *mignonette* will be insured.—**JOHN MACARDELL**, Foreman, Castle Hill Gardens.—[We append the following, being the remarks of an experienced *mignonette* grower in the neighborhood of London.]—The *mignonette* sown in September and kept in cold frames, and protected from rain and frost, with as much light and air as can be given through the winter, will be in flower early in April, and will be much stronger, hardier, and earlier in flower than that sown in spring. If it be necessary to retard the flowering of a portion of the crop,

it can readily be effected by pinching out the points of the shoots about the beginning of March. The spring-sown mignonette comes in very well to succeed that sown in September. The July sowing should be in flower about the beginning of November, and continue to flower through the winter. The sowing recommended the latter end of September or beginning of October, would be very difficult to carry through the months of November and December,—at least, in the neighborhood of London—from the necessity there would be in severe frosty weather of keeping the covering on for several successive days. The plants being young and weak, would most likely perish by damp.—(*Gard. Jour.*, p. 772, 1849.)

ART. II. Domestic Notices.

THE ISABELLA GRAPE.—I write to enquire about the Diana grape, of which I have seen so favorable a notice,—and to know if it is really *hardy* and *good*. I do not dare to leave my Isabella grape vine exposed to the weather in winter; the buds would be injured, and the fruit prove abortive. Indeed, I have lost one entirely, that girted *eleven and a half inches* at the ground, and bore finely, by leaving it exposed a few winters since. It was killed to the root, and never started again, although it was alive (at root), and bled enormously, the sap forcing out through the bark in all directions. I raised, this year, about three quarters of a bushel (seventy-one bunches) of the finest Isabella grapes I ever saw. The vine I had of Messrs. Hovey & Co., two and a half years since. It girts nine inches at the ground. It is now sheltered with long straw, and bound in with list, and was pruned December 1. This is the only grape worth a farthing, in this extreme cold climate, for out door culture, unless the Diana will prove hardy. The Catawba *will not go* and that is the "end on't."—*Yours, Truly*, ALEX. JOHNSTON, JR. *Wiscasset, Me., January*, 1850.

TRANSPLANTING LARGE TREES IN WINTER.—I see Mr. Downing still holds on to the hard work, pickaxe, old fashion idea of digging up trees and setting them out again when everything is froze hard. It is hard, expensive work, and is not a whit surer than my way, and twice as costly. My way is, in a few words, to transplant large evergreens and other trees; select the Trees in February or March; cover their frozen roots with evergreen boughs, a foot deep, or more, and keep the frost *there*. Dig the hole in April, or last of March, for the tree, and then go and get the tree, roots, frost and all; set it out first rate, and it will grow first rate. I have now Norway pines twenty feet high, planted as above, three years since,—splendid trees now.—*Yours truly*, A. JOHNSTON, JR., *Wiscasset, Me., January*, 1850.

SEEDLING PEARS IN VERMONT.—Mr. L. C. Udal, of Pomfret, exhibited five kinds of seedling pears, at the show of the Windsor County Agricultural Society; all of good appearance, and two of such degree of excellence, that the Committee felt themselves justified in awarding to him the Discretionary Premium, to the amount of one dollar. Mr. Udal has other seedlings,

which, with those exhibited, the Committee think deserve further attention from the Society.

THE ANNUAL EXHIBITION OF THE MASSACHUSETTS HORTICULTURAL SOCIETY will be held on Tuesday, Wednesday and Thursday, the 17th, 18th, and 19th of September next, as will be seen by a reference to the doings of the Society, in another page. The place where it will be held has been referred to a committee, who will report at a future meeting.—*Ed.*

ESTABLISHMENT OF A BUREAU OF AGRICULTURE.—The Vermont Legislature, at a late session, voted to petition Congress to establish a Bureau of Agriculture, and in accordance with that vote, appointed a committee to inquire into the subject and report upon the same. This report which is of considerable length, was accepted by the Legislature, and approved by the Governor. We shall notice it in another number.—*Ed.*

ART. III. *Massachusetts Horticultural Society.*

Saturday, January 5, 1850.—The stated quarterly meeting of the Society was held to-day—the President in the chair.

The President, on opening the meeting, stated that it had not been customary to address the members, yet in the present condition of the Society, some suggestions had occurred to him, which he thought proper to lay before them. His address was as follows:—

Gentlemen of the Massachusetts Horticultural Society: Your unanimous suffrages have again placed me in a position that demands my thanks for the honor conferred.

The past, the present, and the anticipations of the future, cheer my path, as I feel assured I shall have your hearty coöperation in all my endeavors to promote the interest of the science of Horticulture.

The year which has just closed, has removed from us one of our respected and beloved members. His munificent bequest to this Society demands our grateful remembrance, and the specimens of his taste for the beautiful, in the highest branch of our science—landscape gardening—will command the attention and admiration of all who visit the spot rendered so lovely by the genius of his own elevated mind.

Landscape Gardening is a branch of Horticulture, which the wealthy only in other countries, can carry out with success, but in our extensive and free domains, every industrious and enterprising man, with a love of Nature cherished within his breast, may surround himself with the beautiful.

Improvements in this department may be seen in the grounds of the late Hon. Theodore Lyman, the Hon. Thomas H. Perkins of Brookline, J. P. Cushing, Esq. of Watertown, Hon. M. P. Wilder, and Samuel Downer, Jr., Esq., of Dorchester, and Otis Johnson, Esq. of Lynn. Nor can I refrain from noticing the great improvements made in the nurseries generally, but more particularly in the respective establishments of Messrs. Winship, of

Brighton, and Messrs. Hovey, of Cambridge. Before I dismiss this subject, allow me to recommend for your consideration, the propriety of so amending the By-Laws, as to provide for, and establish a Professorship of Landscape Gardening.

Persons extensively engaged in the cultivation of fruit for the market, or for their own use, have probably noticed the vast number of insects which prey upon, or otherwise destroy the fruit, in all its stages, from the opening of the flower bud to the period of its maturity. To counteract these devastations, some persons have placed bottles, partly filled with sweetened water, among the branches of their trees, thus destroying hundreds of thousands of insects without discriminating between friends and foes. This is, in my opinion, a subject worthy of consideration, and which might be placed in the hands of our Professor of *Entomology* for his investigation, and should he consider it a fit subject for a public lecture, or lectures, he might be solicited to communicate the result of his research, in that, or some other way, to the members of this Society and the public. I would further suggest, that the Professor of Botany, and also the Professor of Horticultural Chemistry, be consulted as to the expediency of delivering one or more lectures annually, on the respective subjects committed to their charge.

The premiums offered, and the gratuities given by the Society, for many years past, have produced a laudable competition among the cultivators of excellent vegetables, beautiful flowers, and delicious fruits. As a natural result, corresponding improvements have been made in the management of Trees, Shrubs, Plants, &c., in the Orchard, Garden, and Conservatory, but not to that extent, probably, that would have been made, had the Society offered liberal premiums for the best conducted, most productive, and economically managed establishments. I would therefore recommend that premiums be offered, and gratuities be given by the Society, under the direction of a Committee appointed for that purpose, whose duty it should be, to visit and examine such places, as the proprietors thereof shall invite them so to do, at such times and as often as they may deem proper, without any previous notice having been given to the gardener, superintendent or other person having charge of the same; that the Committee may be able to form a correct judgment, as to the general management, and state of cultivation on the premises, and to report to the Society the most successful *cultivators at home*, as the other Committees report the finest products exhibited in the *Hall* of the Society.

The Hall of the Society is well located, and in every way adapted for the present weekly and minor exhibitions of the Society; but it is already found to be entirely too limited for the larger displays. I would, therefore, suggest that an arrangement be made to have the *Annual Exhibition*, in September next, under a tent or tents of ample dimensions, in some suitable place as near the centre of the city as possible. Such a show would probably give a new impulse to the pursuits of Horticulture, and in some measure meet the increasing demands of the public for more information on that subject. The eye, the mirror of the tablet of memory, will ever be, in my opinion, the pioneer in Horticultural science; it should be first consulted, by being brought

in contact with the useful and beautiful—that the impressions made might be contemplated—carried away and acted upon. For this purpose a larger Hall will soon be necessary. Permit me, therefore, to suggest that our present resources should be husbanded with as much economy as a liberal and *progressive* management of the affairs of the Society will permit, to enable it, at no distant day, to erect a Temple which shall be an ornament to the City, and in every way adapted to the wants of the Society and the public.

When the Society shall be provided with a suitable place for its exhibitions, then, as soon as its funds will permit, the purchase of a piece of land for an experimental garden, so much needed, will, I have no doubt, occupy the attention of the Society. Such an establishment would extend the sphere of our labors, and gratify the members by placing at their command further means of usefulness.

The third number of the Transactions will be published as soon as practicable. This number will complete the first volume, and I have the pleasure to state, that a concise history of the Society from its commencement to the present time, may be expected in its pages, from the pen of its first President, General Dearborn.

Gentlemen: It gives me great pleasure to embrace this opportunity, which your kindness has given me, to present these suggestions for your consideration and action, and to assure you of my wishes to coöperate with you in all your endeavors to promote the usefulness of the Society, and the advancement of Horticultural Knowledge.

The address, on motion of C. M. Hovey, was referred to a Special Committee of seven, to report upon the same at a future meeting. The committee were, J. S. Cabot, C. M. Hovey, C. Newhall, J. Breck, W. R. Austin, Rev. D. Leach, and S. W. Cole.

The committee appointed at the last meeting to nominate a Committee of Arrangements for the year, reported the names of the following members:

J. Breck, (chairman,) J. S. Cabot, D. Haggerston, A. D. Williams, Jr., W. R. Austin, J. F. Allen, Jos. Lovitt, O. Johnson, C. M. Hovey, Jas. Nugent, A. McLennan, E. A. Story, and E. Wight. The report was accepted, with the power of the committee to fill vacancies.

The Committee on the Library reported in part.

On motion of Mr. Cabot, a medal or piece of plate, of the value of *ten dollars*, was voted to D. T. Curtis, for specimens of Easter Beurré, and other pears in a fine state of preservation.

Jas. R. Hayes, was elected a member of the Society.

Adjourned one week, to January 12th.

Exhibited.—**FRUITS:** From D. T. Curtis, Easter Beurré pears, well ripened and in fine condition. From J. F. Allen, Grapes—Black Hamburg, West's St. Peter's, Whortley Hall Seedling, Syrian, Muscat of Alexandria. These grapes were fresh, well preserved, and the Black Hamburg, especially, retained much of their flavor.

January 12th.—An adjourned meeting of the Society was held this day—Vice President, B. V. French, in the chair.

Mr. Stickney presented the report of Finance, which was read and accepted.

The Committee of Finance in accordance with the provisions of the By-Laws of said Society, submit the following Report of its Financial condition, as it existed on the 1st day of January, A. D. 1850, as per Treasurer's accounts, all of which the Committee find to be correctly cast, and properly vouched:—

RECEIPTS FOR THE YEAR 1849.

Balance of Cash on hand,	\$81 74
From Mount Auburn,	2582 43
Dividend Mass. Hospital Life Ins. Co.,	170 90
" Worcester Railroad,	88 00
" Old Colony "	45 00
Josiah Bradlee, Esq. on Mortgage,	10,000 00
Treasurer's Note discounted at Tremont Bank,	980 00
Donation of E. Beck, Esq.	35 00
Sales of Railroad stocks,	3,571 75
Rent of Store,	1,000 00
One half Taxes paid by Mr. Bowditch,	97 50
Rent of Hall,	863 55
Admission Fees,	130 00
Receipts at door, semi-annual Exhibition,	110 75
" " annual "	210 25
Assessments collected,	858 00

\$20,743 13

PAYMENTS FOR THE YEAR 1849.

Paid Mortgage Note,	\$15,000 00
Interest on the same for 6 months,	375 00
Taxes on Real Estate,	195 00
Treasurer's Note at Tremont Bank,	1,000 00
Repairs and alterations,	256 89
Gold Medals,	110 00
Printing and Advertising,	450 00
Drafts on account of Transactions,	193 83
Expenses for Annual Exhibition,	324 00
" " semi-Annual Exhibition,	218 00
Premiums and gratuities,	1,350 00
Salaries, and care of Hall	428 00
Interest on \$10,000 Mortgage,	300 00
Miscellaneous Items,	218 65
Cash in Treasury January 1, 1850,	242 22

\$20,743 13

OUTSTANDING CLAIMS AGAINST THE SOCIETY, JAN. 1, 1850.

Unpaid Bills.	\$900 00
Memorandum check due Josiah Bradlee, Esq. to pay note at Tremont Bank,	1,000 00
For repairs and furniture of Library,	400 00
Premiums and gratuities for 1849,	1,500 00
“ “ 1848,	200 00
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	\$4,000 00
Mortgage on Real Estate,	10,000 00

PROPERTY OF THE SOCIETY.

Real Estate in School St.,	\$36,000 00
Furniture, 3 Chandeliers,	390 00
2 Bradlee Vases,	150 00
2 Marble Vases,	90 00
Jones Vase,	75 00
Glass Ware, &c.	900 00
Safe, &c.	300 00
Flower Stands, Tables, &c.,	300 00
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	2,205 00
Library,	1,500 00

PERMANENT FUNDS.

Appleton Fund,	\$1,000 00
Lyman “	1,000 00
Lowell “	1,000 00
Bradlee “	500 00
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	3,500 00
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	\$43,205 00

The donation of Mr. Bradlee was \$1000, and there remains to be invested as a permanent fund, \$500.

In closing this Report, the Committee have the pleasure to state, that during the past year, the original Mortgage on their Real Estate, has been reduced from *fifteen thousand dollars to ten thousand dollars*, and that the Society will soon receive a sum equal to the last named, viz.: *ten thousand dollars*, by the bequest of the late Hon. Theodore Lyman,

MARSHALL P. WILDER, } Finance Committee.
 JOSIAH STICKNEY, }

A communication was received from the Executors of the will of the late Theodore Lyman, asking for the appointment of a committee to receive the Legacy and discharge the Executors.

Voted, That the Finance Committee, Messrs, M. P. Wilder, J. Stickney,

and O. Johnson, have full power to adjust the matter with the aforesaid Executors.

The committee appointed to correspond with the various Horticultural Societies, made their report, which was referred to the Committee of Arrangements.

The Corresponding Secretary read a letter from the Kentucky Horticultural Society, requesting copies of the Transactions of the Society, and the Secretary was directed to comply with their request.

On motion of C. M. Hovey, it was voted that the Committee of Arrangements be required to appoint the day for holding the Annual Exhibition in September next, and report at the next meeting.

Adjourned two weeks, to January 26th.

Exhibi^{td}.—FRUITS: From D. T. Curtis, Pears—Easter Buerré, two dishes, one fine, the other green and indifferent; presented for the purpose of showing the results of different modes of ripening. From J. Owen, Apple—from Vermont; Rhode Island Greening.

The following is the report of the committee establishing Premiums for 1850, approved by the Executive Committee:

LIST OF PREMIUMS FOR 1850.

AMOUNT APPROPRIATED, FOUR HUNDRED AND FIFTY DOLLARS.

PROSPECTIVE PRIZES.

For objects to be originated subsequent to A. D. 1846, and which, after a trial of five years, shall be deemed equal, or superior, in quality, and other characteristics, to any now extant.

For the best Seedling Pear, the Society's large Gold Medal, valued at	\$60 00
" " " Apple, " " " "	60 00
" " " Hardy Grape, " " " "	60 00
" " " Plum, the Appleton Gold Medal, . . .	40 00
" " " Cherry, the Lowell Gold Medal, . . .	40 00
" " " Strawberry, the Lyman Plate, . . .	50 00
" " " Raspberry, the Bradlee Plate, . . .	40 00
" " " Hardy Rose, the Society's large Gold Medal, .	60 00
" " " Camellia Japonica, the Society's large Gold Medal, . . .	60 00
" " " Azalea Indica, the Lowell Gold Medal, . . .	40 00
" " " Tree Pæonia, the Appleton Gold Medal. . .	40 00
" " " Herbaceous Pæonia, the Lowell Gold Medal, .	40 00
" " " Potato, the Society's large Gold Medal, . . .	60 00

PRIZES FOR FRUITS DURING THE SEASON.

For the best and most interesting exhibition of Fruits during the season, the Lowell plate, valued at	\$20 00
For the second best do.,	12 00
APPLES. —For the best twelve Summer Apples, on or before the last Saturday in August,	
For the next best do.,	4 00

For the best twelve Autumn Apples, on or before the last Saturday in November,	6 00
For the next best do.,	4 00
For the best twelve Winter Apples, on or before the last Saturday in December,	6 00
For the next best do.,	4 00
BLACKBERRIES.—For the best specimens, not less than two boxes,	5 00
For the next best do.,	3 00
CHERRIES.—For the best specimens, not less than two boxes,	6 00
For the next best do.,	4 00
CURRENTS.—For the best specimens, not less than two boxes,	5 00
For the next best do.,	3 00
FIGS.—For the best twelve specimens,	5 00
For the next best do.,	3 00
GOOSEBERRIES.—For the best specimens, not less than two boxes,	5 00
For the next best do.,	3 00
GRAPES.—For the best specimens, grown under glass, on or before the first Saturday in July,	10 00
For the next best do.,	7 00
For the best specimens, grown under glass, subsequently to the first Saturday in July,	10 00
For the next best do.,	7 00
For the best specimens of Native Grapes,	5 00
For the next best do.,	3 00
MUSK MELON.—For the best Musk Melon, in open culture, on or before the last Saturday in September,	5 00
For the next best do., raised by open culture, on or before the last Saturday in September,	3 00
NECTARINES.—For the best twelve specimens,	6 00
For the next best do.,	4 00
PEACHES.—For the best twelve specimens, grown under glass, on or before the second Saturday in July,	6 00
For the next best do.,	4 00
For the best twelve specimens, grown in open culture,	6 00
For the next best do.,	4 00
PEARS.—For the best collection, not exhibited before this year, with a written description of the same, the Society's plate,	15 00
For the next best do.,	10 00
For the best twelve Summer Pears, on or before the last Saturday in August,	6 00
For the next best do.,	4 00
For the best twelve Autumn Pears, on or before the last Saturday in November,	6 00
For the next best do.,	4 00
For the best twelve Winter Pears, on or before the last Saturday in December,	10 00
For the next best do.,	6 00
PLUMS.—For the best specimens, not less than two boxes,	6 00
For the next best do.,	3 00

QUINCES.—For the best twelve specimens,	\$5 00
For the next best do.,	3 00
RASPBERRIES.—For the best specimens, not less than two boxes,	5 00
For the next best do.,	3 00
STRAWBERRIES.—For the best specimens, not less than two boxes,	6 00
For the second best do.,	4 00
For the third best do.,	3 00

PRIZES FOR FRUITS.

To be awarded on the first day of the Annual Exhibition in September.

APPLES.—For the best twelve varieties, of twelve specimens each, the Society's Plate, valued at	20 00
For the second best do.,	12 00
For the third best do.,	8 00
For the best dish of Apples, twelve specimens, of one variety,	6 00
For the next best do.,	4 00
PEARS.—For the best twelve varieties, of twelve specimens each, the Lyman Plate, valued at	20 00
For the second best do.,	12 00
For the third best do.,	8 00
For the best dish of Pears, twelve specimens of one variety,	6 00
For the next best do.,	4 00
ASSORTED FRUIT.—For the best basket of Fruit, of various kinds,	10 00
For the second best do.,	7 00
For the third best do.,	5 00
GRAPES.—For the best five varieties, two bunches each, the Lyman Plate,	15 00
For the second best five varieties, two bunches each, the Bradlee Plate,	10 00
For the best two varieties, two bunches each,	7 00
For the second best do.,	5 00
PEACHES.—For the best dish, of not less than twelve,	8 00
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	\$450 00

☞ The Prizes and Gratuities will be awarded on the following days :

For Cherries, forced Grapes, forced Peaches, and Strawberries, on the last Saturday in July.

For Summer Apples, Blackberries, Currants, Gooseberries, Summer Pears and Raspberries, on the last Saturday in August.

For Foreign and Native Grapes, Nectarines, Peaches, Plums, and Musk Melons, on the last Saturday in October.

For Autumn Apples, Figs, Autumn Pears, and Quinces, on the last Saturday in November.

For Winter Apples, Winter Pears, New Pears, and for the "Exhibition during the season," on the last Saturday in December.

☞ Competitors for Prizes are particularly referred to the Rules and Regulations, which will be strictly adhered to by the Committee.

PRIZES FOR PLANTS, FLOWERS, AND DESIGNS.

AMOUNT APPROPRIATED, SIX HUNDRED AND FIFTY DOLLARS.

DISPLAY OF GREENHOUSE PLANTS, IN POTS, THROUGH THE SEASON.

For the best display of Greenhouse Plants, in pots, through the season, the Appleton Gold Medal, valued at	\$25 00
For the second best display of do., the Society's Silver Gilt Medal, valued at	15 00

DISPLAY OF GREENHOUSE PLANTS, IN POTS.

To be exhibited at the opening of the Hall, on the first Saturday in May :

PELARGONIUMS. — <i>Class I.</i> —For the best six new and rare varieties, grown in eight-inch pots, a prize of	6 00
For the second best do.,	4 00
<i>Class II.</i> —For the best six new and rare varieties, grown in large pots, a prize of	6 00
For the second best do.,	4 00
ROSES. —For the best six varieties of Tea, Bourbon, Noisette, or Bengal, a prize of	6 00
For the second best do.,	4 00
For the third best do.,	2 00
CUT FLOWERS. —For the best display, a prize of	3 00
For the second best do.,	2 00
FUCHSIAS. —For the best six varieties, a prize of	6 00
For the second best do.,	4 00
CACTUS. —For the best six varieties, a prize of	3 00
For the second best do.,	2 00
CALCEOLARIAS. —For the best six varieties, a prize of	3 00
For the second best do.,	2 00
CINERARIAS. —For the best six varieties, a prize of	3 00
For the second best do.,	2 00
HEATHS. —For the best varieties, a prize of	3 00
For the second best do.,	2 00
VARIOUS SORTS. —For the best display of various sorts of Greenhouse Plants, not less than twelve pots, a prize of	8 00
For the second best display,	5 00
HYACINTHS. —Prizes to be awarded second Saturday in May.	
For the best display, not less than twenty varieties,	5 00
For the second best do.,	3 00
TULIPS. —Prizes to be awarded the third Saturday in May.	
For the best thirty distinct varieties, a prize of	8 00
For the second best do.,	6 00
For the third best do.,	3 00
PANSIES. —Prizes to be awarded the fourth Saturday in May.	
For the best twelve distinct varieties, a prize of	4 00
For the second best do.,	3 00
For the third best do.,	2 00
HAWTHORNS. —Prizes to be awarded the fourth Saturday in May.	
For the best display, a prize of	3 00
For the second best do.,	2 00

HARDY AZALEAS.—Prizes to be awarded fourth Saturday in May.

For the best display, a prize of	\$5 00
For the second best do.,	3 00

SHRUBBY PÆONIES.—Prizes to be awarded fourth Saturday in May.

For the best six varieties, a prize of	5 00
For the second best do.,	4 00
For the best display,	3 00

HERBACEOUS PÆONIES.—Prizes to be awarded second Saturday in June.

For the best twelve flowers, having regard to the number of varieties, a prize of	5 00
For the second best do.,	4 00
For the best display,	3 00

PINKS.—Prizes to be awarded third Saturday in June.

For the best six distinct varieties, a prize of	4 00
For the second best do.,	3 00
For the best display,	2 00

HARDY ROSES.—Prizes to be awarded third Saturday in June.

CLASS I.

For the best thirty distinct varieties, a prize of	8 00
For the second best do.,	6 00
For the third best do.,	4 00
For the best display,	3 00

CLASS II.

For the best twelve distinct varieties, a prize of	5 00
For the second best do.,	3 00
For the third best do.,	2 00

CLASS III.

HARDY PERPETUAL ROSES. —For the best ten varieties, a prize of	5 00
For the second best do.,	4 00
For the best display,	3 00

PRAIRIE ROSES. —For the best display, not less than six varieties, a prize of	5 00
For the second best do., not less than four do.,	4 00
For the third best do., not less than four do.,	3 00

CARNATION AND PICOTEÉ PINKS.—Prizes to be awarded third Saturday in July.

For the best ten varieties, a prize of	5 00
For the second best do.,	4 00
For the best display,	3 00

MAGNOLIAS. —For the best display through the season, a prize of	3 00
For the second best do.,	2 00

HARDY RHODODENDRONS. —For the best display of the season, a prize of	5 00
For the second best do.,	3 00
For the third best do.,	2 00

DOUBLE HOLLYHOCKS.—Prizes to be awarded third Saturday in July.

For the best display, a prize of	5 00
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For the second best do.,	\$4 00
For the third best do.,	2 00
DOUBLE BALSAMS. —Prizes to be awarded second Saturday in August.	
For the best display, a prize of	3 00
For the second best do.,	2 00
For the third best do.,	1 00
PHLOXES. —Prizes to be awarded third Saturday in August.	
For the best ten distinct varieties, a prize of	6 00
For the second best do.,	4 00
For the third best do.,	3 00
GERMAN ASTERS. —Prizes to be awarded second Saturday in September.	
For the best display a prize of	4 00
For the second best do.,	3 00
For the third best do.,	2 00

BOUQUETS, WREATHS, DESIGNS, &c.**PRIZES TO BE AWARDED AT THE ANNUAL EXHIBITION.**

VASE BOUQUETS. —For the best pair suitable for the Bradlee Vases, a prize of the Bradlee Plate, valued at		10 00
For the second best do.,		6 00
For the best pair for the Society's Marble Vases,		10 00
For the second best do.,		6 00
PARLOR BOUQUETS. —For the best pair suitable for the parlor,		8 00
For the second best do.,		6 00
For the third best do.,		5 00
For the fourth best do.,		3 00
POT PLANTS. —For the best display, of not less than twenty Pot Plants, a prize of		12 00
For the second best do.,		10 00
For the third best do.,		8 00
For the fourth best do.,		5 00
COCKSCOMB. —For the best six pots, a prize of		3 00
For the second best do.,		2 00
BALSAMS. —For the best six pots, a prize of		3 00
For the second best do.,		2 00
DAHLIAS. —Prizes to be awarded fourth Saturday in September.		

DIVISION A.

Premier Prize. —For the best twelve dissimilar blooms, the Society's Silver Medal,	8 00
Specimen Bloom. —For the best flower,	3 00
Various Colors. —For the best yellow, buff, or orange; purple or maroon; crimson or claret; very dark; white; edged or tipped; scarlet; pink or rose; striped lilac, a prize of \$1 00 each,	12 00

DIVISION B.—CLASS I.

For the best twenty-four dissimilar blooms,	7 00
For the second best do.,	5 00

CLASS II.

For the best eighteen dissimilar blooms,	\$6 00
For the second best do.,	4 00

CLASS III.

For the best twelve dissimilar blooms,	5 00
For the second best do.,	3 00
HERBACEOUS PERENNIALS.—For the best display through the season, the Society's Silver Medal,	5 00
For the second best do., a prize of	4 00
For the third best do.,	3 00
ANNUALS.—For the best display through the season, the Society's Silver Medal,	5 00
For the second best display, a prize of	4 00
For the third best do.,	3 00
CAMELLIAS.—Prizes to be awarded second Saturday in February.	
For the best twelve varieties of cut flowers, with foliage, a prize of	8 00
For the second best do.,	5 00
CHINESE PRIMROSE.—Prizes to be awarded second Saturday in February.	
For the best six plants, in not less than four varieties, in pots,	3 00
For the second best do. do.,	2 00
GREENHOUSE AZALEAS.—Prizes to be awarded second Saturday in March.	
For the best six varieties in pots,	6 00
For the second best do. do.,	4 00
FLOWERING SHRUBS.—For the best display, during the season, a prize of	5 00
For the second best do.,	4 00
For the third best do. do.,	3 00

\$537 00

PRIZES AND GRATUITIES TO BE AWARDED AT THE WEEKLY EXHIBITIONS.

AMOUNT APPROPRIATED, ONE HUNDRED AND THIRTEEN DOLLARS. \$113 00

For the best six Pot Plants, of different varieties, a prize of	\$2 00
For the second best do.,	1 00
For the best large Bouquet for vases or parlor, composed of flowers gracefully arranged, a prize of	1 00
For the best pair of Bouquets, of any description,	1 00

\$650 00

PRIZES FOR VEGETABLES.

AMOUNT APPROPRIATED, ONE HUNDRED AND FIFTY DOLLARS.

ASPARAGUS.—For the earliest and best, not less than three bunches, a prize of	3 00
For the second best do., a prize of	2 00

BEETS. —For the best (pure blood beet,) during the season, not less than twelve roots, a prize of	\$3 00
BROCCOLI. —For the best three heads, a prize of	5 00
BEANS. —For the best and earliest peck of string beans, a prize of	3 00
For the best and earliest Lima Beans, not less than two quarts, a prize of	3 00
For the best and earliest variety of shell beans, a prize of	3 00
HORSE RADISH. —Best during the season,	3 00
CABBAGE. —For the best drumhead cabbage, during the season, not less than three heads, a prize of	5 00
For the second best do., a prize of	3 00
For the best Savoy cabbage, during the season, not less than three heads, a prize of	3 00
For the second best do., a prize of	2 00
CARROTS. —For the best exhibited, a prize of	2 00
CAULIFLOWERS. —For the best and largest, during the season, not less than three heads, a prize of	5 00
For the second best do., a prize of	3 00
CELERY. —For the best and largest blanched, not less than six roots, a prize of	5 00
For the second best do., a prize of	3 00
CORN. —For the best and earliest sweet corn, not less than twelve ears, a prize of	3 00
For the second best do., a prize of	2 00
CUCUMBERS. —For the best pair under glass, previous to the first Saturday of June, a prize of	5 00
For the second best do., a prize of	3 00
For the best and earliest of open culture, a prize of	3 00
Egg PLANTS. —The best display, during the season, a prize of	5 00
For the second best do., a prize of	2 00
LETTUCE. —For the best six heads, before the first Saturday in July, a prize of	3 00
For the second best do., a prize of	2 00
POTATOES. —For the best <i>new</i> seedling, of superior quality, for the table, a prize of	10 00
For the best and earliest peck, previous to August 1, a prize of	3 00
For the second best do., a prize of	2 00
PEAS —For the best and earliest peck in June, a prize of	3 00
RHUBARB. —For the largest and best, previous to the first Saturday in July, not less than twelve stalks, a prize of	5 00
For the second best do., a prize of	3 00
SQUASHES. —For the best pure Canada squashes, not less than six in number, a prize of	3 00
For the greatest variety exhibited, during the season, a prize of	5 00
TOMATOES. —For the best and earliest, not less than one dozen,	3 00
VEGETABLES. —For the best display and greatest variety at the weekly exhibitions, during the season, a prize of	5 00
For the second best do., a prize of	3 00

For the best display and greatest variety at the annual exhibition, a prize of	\$10 00
For the second best do., a prize of	6 00
For any new variety of vegetables suitable for the table, and worthy of cultivation, other than seedling potatoes, a prize of	5 00
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	\$150 00

The Regulations are nearly the same as heretofore. (See Vol. XIV, p. 130.)

HORTICULTURAL OPERATIONS,

FOR FEBRUARY.

FRUIT DEPARTMENT.

GRAPE VINES in the greenhouse and early vinery will now begin to swell their buds, and by the end of the month will be well advanced: syringing should therefore be kept up two or three times a day, in fine weather, until all the eyes are nearly broken; if there is any tendency of the vines to push only at the ends, the shoots should be bent down, or turned horizontally, which will generally make them push evenly. They need not be tied up to the trellis firmly till the eyes have advanced half an inch or more. Give abundance of air in good weather, and do not attempt to force the growth: the old adage of "haste makes waste," holds true in regard to grape growing, if in nothing else. Vines in pots may now be brought into the house for a succession. Cuttings may now be put in, placing them in pots in a little bottom heat. Vines in the open air may be pruned the last of the month.

FIG TREES, in pots, will now begin to break, and will need occasional syringing.

PEACH TREES, in pots may be brought in for a succession, and those already advanced, should be carefully attended to as soon as they come into bloom.

STRAWBERRIES in pots, should be kept on a shelf near the glass, where there is an abundance of air and light: water liberally. Now is a good time to sow seeds for producing new varieties.

ROOT GRAFTING may be commenced now, if the stocks have been taken up and laid in as we directed last fall.

PRUNING ORCHARDS may be commenced now, choosing good weather for the labor: by beginning now much valuable time is saved, which will be wanted when the season is more advanced.

SCIONS of fruit trees may still be cut. Preserve them by inserting their ends in a box of earth, in a cool cellar.

FLOWER DEPARTMENT.

CAMELLIAS will still be in full bloom, and will require liberal supplies of water, and occasional syringing. Keep the plants clear of yellow leaves, and wash them carefully if they become dusty. Inarching and grafting

should be done before the plants begin to grow: cuttings struck last autumn should now be potted off: continue to impregnate the flowers, if seeds are wanted.

PELARGONIUMS, will now come forward more rapidly; such as need it should now have a final shift into their flowering pots, and have the shoots tied out to neat stakes. Plants not wanted for flowering before May, should now be topped, in order to make them compact and bushy specimens: water rather more liberally than last month. Give an abundance of air, and do not crowd the plants.

JAPAN LILIES will now require to be repotted—put them in a light soil, and do not water much until the shoots have advanced three or four inches.

STEPHANOTUS FLORIBUNDUS, should now be repotted, and the shoots tied up neatly to a balloon trellis: place the plant in a good bottom heat to give it a good start.

FUCHSIAS should now be repotted, watered, and started into growth if they are wanted for blooming in May. Cuttings should be put in now.

AZALEAS will soon begin to flower, and will require to be watered rather more liberally.

CACTUSES will begin to grow, and will need more water.

CARNATION AND PICOTEE seeds may now be planted. Old plants in frames should be aired in good weather.

HYDRANGEA JAPONICA should now be shifted and brought into the house. Cuttings may be put in now.

SALVIAS of the various kinds should be propagated now, for a summer stock for bedding out.

ACHIMENES should be potted off, and more bulbs started for a successional bloom.

RANUNCULUSES should be planted this month, in the open ground, and be protected with frames.

BEGONIAS should now be propagated from cuttings.

VERBENAS raised from cuttings late in the season should now be potted off. Seeds may be sown now.

AMARYLLISES may now be potted.

DAHLIAS for early flowering should now be potted, and if young plants are wanted, the cuttings should be put in. Seeds for raising new sorts should be planted now.

TEN WEEK STOCKS, *Phlox Drummondii*, and other tender annual seeds, should now be planted in frames or boxes.

ROSES will now begin to flower, and will need liberal supplies of water, and repeated syringing over the foliage: water occasionally with liquid guano, and fumigate often to destroy the aphids.

SCHIZANTHUSES should now have a final shift into large pots.

VERONICA SPECIOSA should now be repotted, and cuttings put in for a young stock.

HEATHS should be liberally watered, and freely syringed: cuttings may now be successfully put in.

PLANTS IN FRAMES, should be well aired in all good weather.

THE MAGAZINE OF HORTICULTURE.

MARCH, 1850.

ORIGINAL COMMUNICATIONS.

ART. I. *Notice of some Plants of Lynnfield, Danvers, Manchester, &c., &c., Essex County, Massachusetts.* By JOHN LEWIS RUSSELL, Professor of Botany and Vegetable Physiology to Massachusetts Horticultural Society.

THE twenty-fourth of July, 1849, was a bright, sunny day, with an atmosphere rendered delightfully refreshing by a fine southwestern breeze. By previous arrangement, a number of amateurs and lovers of natural history, set out from the goodly city of Salem, provided with such apparatus as best subserved the purposes of the different tastes that might be found in a mixed company. Of these, were disciples skilled in that gentle craft, which the simple-hearted Izaak Walton has immortalized, bent on luring the finny tribe from their watery haunts; and others, with cork, box, and net, to capture insects, from the vile bug, to the gorgeous butterfly; while others still, were ready for never so rough a scramble through fen and moor, and over crag and rock, in quest, now of some little plant, and then, as the case might be, of some wide extended prospect, which was to be gained by exertion of muscle and by dint of patience.

The scene of this second exploration of the season, under the auspices of the Essex Institute, of whose previous labors in the field, you may find an account, if you will, reader, on the 289-295 pages of the volume for the last year, was laid out in the vicinity of the hospitable mansion of the Hon.

Asa T. Newhall, in Lynnfield, who generously offered his premises as a rendezvous. It was in front of this old-fashioned farm-house, surrounded as it is with a luxuriant growth of the yellow locust, that we were met by a few invited scientific friends from Boston, who were bent on an investigation of the several geological and mineral features of the region. There were ledges of serpentine, boulders of sienites, and many diversified characters of a peculiarly wild region, beside. Of them I may speak more at length in the course of my present remarks.

It would be doing injustice to the well-deserved fame of our host, were I to omit further notice of the extraordinary vigor and thriftiness perceptible in the copses and belts of the yellow locust trees, to which I have just now alluded. On approaching the homestead, (a fine specimen, in its way, of the old and long cultivated farms of Essex county,) you enter, as it were, an avenue of half a mile or more, of these valuable trees, formed by the judicious permission and even encouragement of their growth near the stone-walls, on each side of the public road. The well known tendency of the tree (*Robinia Pseudacacia L.*) to throw up from its roots numerous suckers, causes it to be very valuable in covering such portions of the soil as could not be usefully cultivated with any thing else. When needed, as in the present instance, for ornament as well as for comfort, shade and use, these suckers may be destroyed in such a manner as to allow a row of standard trees to grow into the requisite size and proportion. As I traversed this almost natural avenue, I easily fancied the exquisite loveliness which it must present in the flowery month of June, when laden with its myriad racemes of snowy white blossoms, all redolent with a perfume alike grateful to the industrious bees and to man. In a small enclosure, on these same premises, I was shown a thick copse of the same trees, that were left to perform their own pruning, and which had accommodated themselves to a very unpropitious looking mass of rocks; an area, without such aid, that would have produced little else than worthless brambles or unsightly weeds. The trunk of a very large

specimen of the yellow locust was lying near by ; the remnant of a magnificent individual tree, whose removal by the axe, dire necessity compelled, after it had sheltered many a rood of ground, for many a year.

The yellow locust, as it may be well known to every one conversant with the habits of destructive insects, has been a difficult subject of cultivation, on account of the ravages committed upon its young and rapidly growing condition by that beautiful coleopterous insect the *CLYTUS PICTUS*. Various remedies have been suggested ; of these, the following, by some person of observation, who found that those trees which were shaded from the direct rays of the sun, generally escaped. It may be the part of wisdom to allow the *Robinia pseudacacia* to grow up naturally, as thick as it will, over lands especially appropriated to its culture ; and the casual notice of the fact assumed in the suggested remedy, may suggest some valuable hint, in raising this beautiful and highly useful forest tree, of which it is now rare to meet with specimens of natural size, and of any considerable age. Judging from the vigor of the trees on Mr. Newhall's premises, it is to be presumed that some accidental or natural condition has proved advantageous.

While on the point of setting out for a botanical ramble, with a number of our party, several of whom composed our corps in the first exploration, we found that old and familiar plant of healing virtues, naturalizing itself on the summit of a high rock, and seeming as much at home in its artificially arranged habitat, as if it were really a part and parcel of the company of Cryptogamic plants which were luxuriating around it. It was, however, none other than a vigorous patch of the homely houseleek, *Sempervivum tictorum*, which, according to Linnæus, is used in Smoland as a preservative to the coverings of the houses ; to which end it may be easily made to serve, by sticking its offsets into a little earth or cow-dung ; and from each parent plant, its numerous offspring spread over the entire surface, whether it be of tile, wood, or thatch. I had previously seen the same vivacious plant honored with like care by many painstaking

matrons, who, skilled in the plainer pharmacopœia of the herb and simples, employed its soothing juices in allaying burns, and in mitigating the acrid humors of ulcers. It was a pleasing memento of those ruder days, when the kitchen garden was the unfailing source of all manner of healing plants fit for the curing of the ails of the body; aye, and of the mind and the heart too, forsooth; for accidents and injuries beyond the skill of the village leech. Now, whether its magic virtues in its humble sphere, have been superseded by some other plant of more foreign growth, or have ceased altogether, doth not appear to me a clear and precise point; suffice it, it has almost become to be among the things which were.

The extreme dryness of the season was soon perceived, as we struck into the woods, or ranged among the high rocks, or skirted beneath the impending cliffs, the noted resort of the much dreaded rattlesnake, (*Crotalus durissus* KALM,) whose presence was not discovered by any of us, notwithstanding our intrusion, under a sun of noontide splendor, and when its reptile vigor might be supposed to be the most active. The herborizing among the phanogamous plants was, as might be supposed, a precarious occupation; and it was only by seeking the low, swampy spots, or else the margins of the ditches and streams, that we could meet with the usual flowers of the season. Nothing of particular interest was observed in this line of research; and, with the solitary exception of a small sphagnous spot, which produced a few beautiful species, we were obliged to content ourselves with the common shrubs, which were passing out of bloom, and with scanning the surfaces and sides of the rocks, on which the hardier forms of vegetable life were to be found, defying by their peculiar habits, the solstitial heats and the winter's cold alike. It was in such a little sunken spot, where usually it would have been impracticable to have walked dryshod, that the *DRO'SERA longifolia* (long-leaved Sun-dew,) was growing in abundance: its spatulate foliage sparkling in the light, with its viscous secretion exuding from the many glands which invested it, and contrasting splendidly

with the long stems laden with golden blossoms of the *UTRICULARIA vulgaris*, (the common or Greater Bladderwort.) In the soft, black and oozy mud, and where usually there might have been several feet of water in the excavations made by cuttings for peat, and now almost dry, were the beautiful flowers of the *NYMPHÆA odorata*, that QUEEN of our northern waters, lying sadly prostrate, or scarcely elevated on short stems; and although in such an unusual condition, yet expanding its snowy petals, as if a nymph of the lake had been transformed by some potent spell into a denizen of some more terraqueous site!

From the general health of the plant, I thought that we might gather a valuable hint, to try the culture of the *Nymphæa* under circumstances where even a scanty supply of water is available; and certainly, if the same pains were taken in this way, that is bestowed on far less worthy objects, considerable success might be reasonably anticipated. An aquarium in some of our greenhouses, that could be supplied with *COCHITUATE*, might afford a crop of pond-lilies of as dainty rarity when out of season, as is many a camellia; and this all the more to be surmised, after having seen the pretty little *Nymphæa cærulea* so carefully nursed in shallow pans, in the warmer parts of the conservatory.

There are some improvable qualities connected with our native *NYMPHÆA* which should not be overlooked. I mean its increasing in size of foliage and flowers, when under favorable circumstances. Some roots which have been for several years planted in a small artificial pond in the garden of E. Hersey Derby, Esq., of Salem, produce extraordinary large blossoms and continue to flower for several weeks later than when growing wild. The beautiful variety, with roseate petals, cultivated at the Botanic Garden, Cambridge, may be familiar to many of our readers; and it would be pleasant to see the *NYMPHÆA ALBA* of Great Britain, so closely allied to our own in our streams and ponds, introduced, of which no instance has ever occurred to my knowledge.

As we ascended the higher points of land and scaled the

rocks, several interesting LICHENES met my eye. Among these, I detected what I have but little hesitation in pronouncing *Lecidea decolorans* Acharius; or, now known as *BIAT'ORA decolorans* Fries. This singular lichen had all the air of some Alpine production, with its apothecia of fuscous hue when dry, but of a red color when moistened. In this immediate neighborhood I had found *Parmelia detonsa* Fries's *Syst: Orb: Veg:* p. 284, so metamorphosed by struggling for growth on the surface of the bare rocks lately denuded of trees, and thus deprived of its favorite shade, that I was for some time doubtful of its identity. The smaller stones and fragments of rocks lying scattered about in confusion, were covered with *Collèma nigrèscens* Ach: and where any crevices allowed, the *Polypodium vulgare* intermixed with *Bartramia pomiformis*, and several species of *Sticta* was to be seen fringing the outlines of crags with a feathery contour. The UMBILICARIE of several species, gave characteristic shagginess to gigantic boulders, of which *Umbil: Dellèni* Tuckerm. *Synopsis* Northern Lich. was to be frequently seen of extraordinary dimensions, and *Umbil: Muhlenbergii*, so useful as an article of food to the Nomadic tribes of our Indians, in close proximity to *Umbil: pustulata*.

Not far from this range of high, wooded precipices, in company with my friend DR. ANDREW NICHOLS, long known as a careful and accurate observer, I once found a small cluster of very fine and fertile specimens of *CLADONIA gràcilis*, variety *elongata*, near the summit of an elevation, which the coast survey had selected for the site of one of its signal-staffs. From the top of this rock, lying within the limits of Danvers, the scenery was of an unsurpassed kind. Before us lay the ocean and several mimic lakes, the distant Blue Hills of Milton, and the shadowy outlines of farther off mountains in New Hampshire; the still and quiet inlets of the sea, and bold promontories which stretched out into its bosom, the numerous emerald-like islands of the bay, the tall lighthouses of the coast, the wave-beaten and rocky shores of Lynn, and the narrow belt of sandy barrier, which

marked the beaches of Nahant and Chelsea. In the back ground of this fine picture, stood a dark forest of the Red Cedar and like hardy trees, whose stiff and straight forms rose on the edges of rock and of confused strata of the ragged hills of Saugus and Lynnfield.

The natural features of this neighborhood are certainly worthy of more attention than they seem to obtain. So diversified a range of strikingly beautiful objects seem scarcely possible to be thus grouped. Considering the *materiel* which the geological aspect of this section of our State furnishes from the numerous high points on the steep hills in the vicinity of Salem, it may be confidently asserted, that this portion of Essex county can offer no mean field of interest to the lover of Nature. A more faithful exploration, and a wider range, with ample time for patient research, may bring to light many more interesting forms of those lower plants, of which the subalpine character of the region promises a valuable harvest, and which are less dependent on the season or on atmospherical conditions, in presenting themselves in some pleasing relations to those, who study their habits or their structure. To the like careful investigations of OAKES, the lichenologist is already indebted for some of the rarer species, which, though humble in their guise, yet may be considered a fortunate acquisition by any botanist. On the broad and flat platforms of the tops of many of these hills, where a thin soil has been gained by the slow disintegration of the looser fragments, lying wasted away to mere stones oftentimes, may be found large flakes and dense masses, several feet in circumference, and of proportionate altitude of stalks, (*podetia*), the *Stereocaulon paschale*, a common, yet ever admired species, which, when growing in barren fields on the plains, is merely a recumbent plant, struggling for existence among the *cladonias* which overtop it.

Returning from the several strolls which each party assumed for itself, according to tastes or inclination, the company were invited by pressing calls of appetite, to partake of such viands as prudent foresight had furnished, repairing to one of the little groves of the yellow locusts, already alluded

to, and after having quaffed *ad libitum* of some delicious water from a contiguous spring. These sterner wants being duly regarded, the entire party adjourned to the ample sitting room of mine host, where various subjects pertaining to the adventures of the day were discussed in an instructive and suggestive manner. On our return towards Salem, after an hour or two thus spent together, several of our friends proceeded to visit a very large bowlder of much interest, familiarly known as Ship Rock, lying at a very considerable height in the rear of the house of David Newhall, on the Lynnfield Road, and about a mile distant from Tapley's Brook. It is estimated that this huge fragment weighs about eleven hundred tons; and yet, from the scratches and furrows beneath it, and from the grooves made upon the rock itself on which it lies, resting upon its apex, it is conjectured that it must have been an erratic. Other bowlders, that are estimated to weigh from fifty to seventy-five tons, are scattered around in the area; while this rears itself above them all in massive solidity and grandeur. From the top of this *pebble stone*, of twenty-two feet altitude, and standing as it does, on the brow of a considerable ascent, the view is one of much beauty, showing beneath your eye the thriving town of Danvers, stretching out in many a village, marked by its white spires, and Salem and its pleasant harbor, and its wooded shores. To rescue this noble specimen of some former mighty cataclysm, from any contingency of being broken up and quarried, the Essex Institute made itself possessor of it by purchase; and to give facility to its inspection, a safe and light apparatus of iron was attached, by which the top can be easily reached.

Having, some years previous, collected specimens of *Draba verna* on a spot not far from this place, through the attention of my friend, DR. NICHOLS, the original discoverer of this habitat of this very small and very early flower, I directed my steps thither in quest of *BARTRAMIA fontana*, which also occurs in the same locality. My companions, as well as myself, found some difficulty in detecting it, so perfectly desiccated was the entire surface of the ground over which, in early

spring, flows such an abundance of water as affords sufficient moisture and nutriment to many species of mosses, which then delight themselves in their fresher foliage, or else in the developed fruit-stalks. A locality so narrow in area, like this, is another instance, among many of the secluded and almost solitary habits of particular plants. Attempts to transplant the *Draba* to similar spots near by, have been made by Dr. Nichols, but I believe, with no permanent success.

By this time, the setting sun and the fatigue of the day, reminded us of a return home, each pleased with our adventures and exploits. To gain as many objects as possible, to collect as many species of plants, or kind of specimens as could have been gathered together, you are to understand, reader, was not our object; the rather to inspect for ourselves, the features and products of that section of the county in which we are residing.

The third, and last exploration for the season, was made on Tuesday, the twenty-eighth of August, 1849. It was the purpose of the party to go over some of the botanical grounds so often visited by Mr. Oakes. From want of precise knowledge of his favorite localities, and with no guide, as in the first instance, to lead us to the most favorable spots; added to these, the continued drought, this expedition was not so profitable as the preceding. Very few plants were detected, and those most conspicuous were seen on the borders of the road in Hamilton, Essex and Manchester, of which, the tall cylindrical spikes of *Sanguisorba canadensis*, and the rich golden flowers of *Bidens chrysanthemoides*, in moist places in fields, were particularly remarkable. To some of the party, the lovely *Rhœxia virginica* proved a novelty, while some rosy flowers of the *Polygonum sagittatum*, which, stretching itself over the tops of the other plants that were growing on the edge of a little stream, mingled well with the slender white spikes of the water pepper, (*Polyg: hydropiper* L.), the splendid flowers of the

Cardinal (*Lobelia cardinalis*) and its lowly, humble neighbor, the purple headed *Polygala sanguinea* L.

This region is favorable in its dry wooded and rocky aspects for the occurrence of the elegant LINNÆA borealis, for several species of *Pyrola*, *Goodyera*, and similar plants. Some of the usual lichenes and musci, I observed, and *Arctostaphylos* (ARBUTUS) *Uva ursi* was gathered at random with others.

As we approached the sea-coast, and entered the farm of BURLEY SMITH, Esq., in Manchester, we found several friends, who joined us at a later hour, anticipating our arrival, to unite in the afternoon session after the usual repast. Here I found the rocks in the immediate contiguity of the sea, conspicuously radiant with the various lichens, which dare to grow just above high water mark, of which, I particularly noticed *Parmelia murorum*, *P. saxicola* and *P. oreina*, while the unpainted buildings, such as barns, and the stone walls, were brightened with *P. parietina*, in several forms. In the loose and heated sand, affording an almost tropical soil, so far as warmth was concerned, were large specimens of that generally diffused and perfectly naturalized East Indian Annual, whose lurid blossoms and fetid leaves render it as well known as do its deleterious seeds, or its spring fruit, the *Datura stramonium*, variety *Tatula*. On the wet sands, and stranded by the receding tide, lay the singular and nearly transparent bodies of many MEDUSÆ, the structure of which served to interest us, when it was exhibited by the aid of powerful microscopes. With the assistance of two of these instruments in the hands of those skilled in their use, several details, both in vegetable and animal anatomy, were made to serve for the pleasure of the afternoon. A few curious species of Algæ were collected, some smaller kinds of maritime insects, and the many *etcetera*, which never come amiss to those to whom they are not trifles.

The route we pursued was a pleasant one in its diversified scenes of bare and rolling hills of diluvium, of wooded swamps, through which the travelled road often lay, of moss-covered rocks, over and among which it anon, winded, the

glimpses of the distant ocean, and the bright little town of Essex, between us and the long line of beach glittering in the sun ; the comfortable homes of the old settlers, nestling in some cozy nook, and looking as demure as if they were of no especial consideration ; yet showing by their weather-beaten exteriors, that many a rude blast and winter storm might attest to the security, which they had, nevertheless, rendered. The air of solid comfort, which most of them exhibited would, however, have been much enhanced by the cultivation of a little of the ornamental. Notwithstanding an increasing attention is evidently paid to the exterior proprieties of our country houses, such as the flower bed and the fruit garden, the shrubbery and the shade tree, yet there remains much to be done in this way. There seems to be no reason why every New England village should not compare favorably with some of those prettier hamlets of Old England, about which we read, when a similar taste for what always renders home, however homely it may be, more pleasant to its inmates, and more conducive to refinement of manners and excellence of life shall more widely obtain. To effects proceeding from all our institutions for the promotion of the study of natural history and of horticulture, we must look ; and by every proper and available encouragement, enable them to be foremost among the educators of the people ; so that our natural advantages, so profusely scattered around us, even in these barren hills and waste-like plains, may be employed for the noblest and wisest purposes of social industry and its best results.

Hingham, January, 1850.

ART. II. *The North American Pomological Convention, at Syracuse, N. Y. By the EDITOR.*

THE second session of this convention, as we have already announced, came together at Syracuse, on the 14th of September last, the day after the New York State Fair. Up-

wards of seventy-five delegates were present from several States, and the meeting was one of much interest to all. Owing, however, to the scanty crop of fruit throughout the middle, western and eastern states, the number presented before the convention was very small, compared with the previous year, and the specimens generally inferior. In consequence of this, the lateness of the week, (Friday,) and the desire of many members to get home, after having attended at the Fair, in a dense crowd, during the four preceding days, the convention decided to close up its doings on the evening of that day, if possible to do so.

The meeting was called together at an early hour, and after the election of officers and business committees, immediately proceeded to take up the fruits for discussion. For this purpose, a committee of three was chosen, to bring forward such fruits as had not been passed upon the preceding year, reporting their qualities, whether first, second or third rate,—according to their opinion of the respective kinds. We take them in order, as reported :

PLUMS.

SMITH'S ORLEANS.—[A misnomer—should be Cooper's, *Ed.*] First rate,—and passed, as reported by the committee.

DUANE'S PURPLE.—Second rate. Some gentlemen thought it ranked high for size and beauty—but no more than second rate.

LAWRENCE'S FAVORITE.—First rate. Gentlemen from the West had not sufficiently tested it to form an opinion.

LONG SCARLET.—Second rate ; but handsome and fine for cooking.

LUCOMBE'S NONSUCH.—Nearly first rate. D. Thomas, thought it only second rate. Mr. C. M. Hovey, thought it fully as good as the Cooper's, and Mr. Saul said he considered it a first rate eating fruit—but only a moderate bearer.

PEARS.

BELLE LUCRATIVE.—First rate.

DUCHESS OF ANGOULEME.—Second rate. A long discussion took place on the merits of this pear. Messrs. Coppock, C. M.

Hovey, Hodge and Dougal, objected to its being classed as second rate. Mr. Barry thought it a magnificent fruit—but that it could not clearly be called first rate. A gentleman of Lockport, once told him that he thought nothing in the world so fine as this pear on the quince stock. Several gentlemen stated, in answer to a question, whether this variety was fine on the pear, that it produced good fruit on that stock.

GANSELL'S BERGAMOT.—First rate. Mr. Hodge stated that he had received it from Canada West, under the name of Dickson pear, and that it was also cultivated in some places, as the Dixon. It was generally conceded to be a first rate variety, but a shy bearer, and the tree a slow grower.

NAPOLEON.—Good second rate. A desirable pear, in large collections.

ST. GHISLAIN.—By two of the committee as first, and by one as second, rate. Mr. Barry said it was quite as good as the Seckel, or any other pear. Mr. C. M. Hovey, Dr. Wendell and D. Thomas, pronounced it first rate. Mr. C. Downing never saw a first rate one in his life, and Mr. Saul stated that he had never found it so. Probably the locality of Newburgh does not suit it.

BUFFUM.—First rate by one of the committee, second rate by the other two. Mr. Barry thought it much like the White Doyenné. All agreed that it was a fine growing tree, and a good bearer.

LONG GREEN.—Second rate. Mr. Hovey remarked, that this should not be confounded with the Long Green of Autumn, which was often received for it from France.

JULIENNE.—Second rate. Mr. J. J. Thomas thought it ought to be rejected for general cultivation. It was, however, generally conceded, to be a second rate fruit, and if gathered in season, and ripened in the house, often nearly first rate.

FREDERICK OF WURTEMBERG.—Second rate. A variable sort not to be depended upon—often are the most beautiful of all pears, and in that condition, of first rate quality. Mr. Hovey remarked, that it required high cultivation, and

that all the small specimens should be picked, when half grown; those remaining would then be good.

FULTON.—First rate, by two of the committee, second rate, by one. Messrs. Barry and Hovey considered it a fine pear.

PASSE COLMAR.—Second rate. Mr. C. M. Hovey was surprised at the report of the committee. He thought, if there was any pear entitled to be considered as first rate, it was the Passe Colmar. The prejudice against it was on account of its not being well grown and properly ripened. Mr. Saul classed it among the variable kinds.

BEURRE' DIEL.—Nearly always first rate. Grows well on the quince. Mr. J. W. P. Allen, considered it second rate on young trees, and first rate on old ones.

BEURRE' D'AMANLIS.—Second rate. Messrs. Barry and Hovey thought it often first rate, but not always so; its productiveness, however, made it a valuable pear for general cultivation.

DIX.—First rate. Messrs. Coppock, Hodge and others, knew but little about it, as it had not fruited much in Western New York. A specimen prematurely ripened, from Mr. F. R. Elliott, of Cleaveland, Ohio, was tasted, which was excellent.

EASTER BEURRE'.—Second rate. The president remarked, that it bore well at the west, and the fruit very fine. Mr. C. M. Hovey could not allow the opinion of the committee to pass, without having his own recorded—that it was not a second, but a first rate pear, and not only first rate, but the best winter pear we had yet known. He had no doubt, but when cultivators knew how to ripen the fruit, it would be justly estimated as one of the finest late winter kinds in cultivation. Mr. Hodge had not succeeded in ripening the fruit, it was frequently gritty.

BLEEKER'S MEADOW.—Second rate. Mr. J. J. Thomas, thought it only *fifth* rate. Very productive, but considered by Messrs. Barry, Hovey, Allen and others, as hardly second rate.

BEURRE' BOSC.—First rate. Mr. Hovey remarked, that it did not grow well on the quince, unless double grafted.

APPLES.

ROXBURY RUSSET.—First rate. No remarks were made upon this apple.

HAWTHORNDEN.—First rate for cooking—second quality, productive and handsome. Messrs. Dougal, Barry and Hovey, thought its beauty, productiveness, early bearing, and good qualities as an early cooking apple, made it a variety well worthy of general cultivation.

MAIDEN'S BLUSH.—Second rate, very beautiful, and a good bearer. Resembles the Hawthornden, and has heretofore been confounded with it. It is, however, quite distinct.

AUTUMN SWAAR.—Presented for information. Mr. Goodsell said it was a handsome, second rate fruit.

RAMBO.—The president said it was the fall and early winter apple of Illinois, and Mr. Bateham, that it was more esteemed in Ohio than any other variety.

RAWLE'S JANET.—Much praised in Illinois, where, from its late blooming, it escapes spring frosts: a constant and good bearer, and excellent keeper. Mr. Bryam stated, that it was one of the standard fruits of Kentucky, and they had to make up their store of fruits from this alone, in consequence of the injuries by frost to other varieties. It was very productive, bearing generally every year: he had kept specimens till August.

SEEDLINGS.

The committee on seedlings, made a report upon those varieties, which they had time to examine, and the following are the sorts which appear to possess merit:—

APPLES.

FINK'S SEEDLING.—Of the Report of the Ohio Fruit Convention. Specimens presented of 1848 and 1849: second rate in flavor; and, from examination of specimens present, valuable only for remaining juicy, and keeping remarkably.

SUMMER RUSSET.—From Parsons & Co. Size below medi-

um : Form, roundish conical : color, yellow, partly russeted. A pleasant, rather sweet, and of a moderately rich, spicy flavor ; worthy the attention of Pomologists.

PLUMS.

DORR'S SEEDLING.—From Albany. A very productive new sort ; the specimens very imperfect, but the committee were favorably impressed with its value.

COL. YOUNG'S SEEDLING EGG.—An improvement in flavor on the White Magnum Bonum ; smaller in size. The committee could only commend it for further examination.

MADISON.—Size, rather below medium : yellowish green : broadly blotched with reddish brown ; rich, sweet, and excellent. Well worthy of public notice.

PEARS.

HEGERMAN.—From Flushing, L. I. Closely resembling the Buffum in appearance, and flavor, if not identical.

Mr. Elliott, the Secretary, closes this part of the proceedings with a description of a new seedling pear, forwarded by Prof. J. P. Kirtland, of Cleaveland, Ohio. It was accompanied with a painting of the fruit, a copy of which, neatly lithographed and colored, accompanies the *Transactions*, and adds much to its value and appearance. We copy the description :—

“ **KIRTLAND.** *Synonymes :* Seedling Seckel, Kirtland's Seedling.—Size, medium : the circumference, six and a half inches : length, including stem, two and a half : form, globular ovate : exterior color, rich crimson russet, varying to a dull green : texture fine, melting, juicy and rich : color of flesh, white : flavor, aromatic, sweet, and in the highest degree delicious : seeds, usually full, short and blackish : stem, six-eighths of an inch in length, thick, and somewhat curved : eye, small, moderately deep, with the segments of the calyx short, reflexed and persistent : season, September : color of wood and growth : the wood is of the same color as the fruit, and the general habit of the tree resembles a thrifty, White Doyenné.

REMARKS.—In the close of the year 1819, I furnished my brother, H. T. Kirtland, with a few seeds of the Seckel Pear, grown in the State of Connecticut. From these, he raised several trees on his farm, in Poland, Mahoning County, Ohio, one of which, he gave me in the year 1825, and which, produced the fruit exhibited at the New York State Fair, last autumn, at Buffalo, and noticed in Vol. VIII. pages 108 and 109, of Transactions of the New York State Agricultural Society. It is no novelty in Mahoning County, Ohio, but is well known by every cultivator of fruit, and is esteemed as one of the finest varieties. In hardiness and productiveness it far excels the parent Seckel, and in point of flavor, is esteemed as superior by many people.

The name attached to it, has designated it for years, and was applied by the public as a compliment to the originator of the seedling, Henry T. Kirtland.

The remainder of the proceedings, making upwards of *forty-six pages*, is filled with interesting reports from committees from the following States:—Illinois, by Dr. J. A. Kennicott; New York, by Dr. H. Wendell; also by W. R. Coppock, for the western part of the State; Ohio, by F. R. Elliott; Wisconsin, by F. R. Phoenix; Michigan, by Dr. J. C. Holmes; Vermont, by C. Goodrich. These reports, particularly those from Dr. Kennicott and Dr. Wendell, are long, and contain much information of a general, as well as local character, and we shall, from time to time, notice them as we may have space to do so. Mr. Elliott describes and figures a seedling Morello cherry, originated by Prof. Kirtland some twenty years since, called the Shannon. With such reports spread before the public, the convention may well claim the thanks of all pomologists and fruit cultivators. If no other results than these shall be realized from similar conventions, their annual or biennial meeting will be of great value and importance to the advancement of horticultural science throughout the country.

ART. III. *Pruning the Gooseberry.* By Mr. ROBERT THOMPSON, Superintendent of the Orchard and Kitchen Garden Department of the London Horticultural Society. *With Remarks.* By the EDITOR.

IN Great Britain the gooseberry is one of the most important of the smaller fruits, and its cultivation has been carried to a high state of perfection. From the small and austere wild fruit, no larger than that which we find in our own pastures, and on the borders of neglected fields, have been raised the large and superior sorts which occupy so prominent a place in the gardens of the poor and the wealthy,—the peasant and the prince, throughout Great Britain. To show how much attention has been given to this fruit it is only necessary to state, that nearly *one thousand* varieties are enumerated in Lindley's *Guide to the Orchard*, (1830,) upwards of two hundred of which, possessed nearly equal merit, and varied in weight from fourteen to twenty-five pennyweights each; and since then improvement has been carried so far, that the heaviest berries have reached the weight of thirty-three pennyweights each!

In our gardens the Gooseberry does not hold so prominent a place, and its cultivation from various causes, seems to have been much neglected. In our climate, it has been so subject to mildew, that in many localities it is rendered almost worthless; and in others, where the fruit escapes this malady, it is rare that the varieties cultivated attain more than half the weight which they do in British gardens. It seems therefore, that their cultivation is not fully understood, or is greatly neglected; for while many fruits quite equal their foreign reputation, the gooseberry alone appears to fall far below it.

The attention of our cultivators is, we are glad to know, now being more directed to this fruit than heretofore, and efforts are making to produce seedlings of our wild gooseberry, which is not attacked with the mildew, of increased size and quality. The first advance has already been achieved in that prolific variety, Houghton's Seedling, and with this for

a parent, we see no reason why we may not in a few years possess native kinds, equalling the foreign ones in size and excellence, and, at the same time, possessing all the hardy and easily cultivated properties of the variety we have just named. We have already quite a number of seedlings, and shall look forward to their fruiting with much interest.

The pruning of the gooseberry is one of the most important points in its cultivation. Naturally possessing a diffuse and bushy habit, the first object is to get rid of the redundancy of shoots, which a healthy bush annually produces, rendering it but a mass of wood and foliage, obstructing the light, preventing a free circulation of air, and appropriating food which should go to the fruit. The best growers of the gooseberry attach great importance to the method of pruning, and are particular in their directions on this head: indeed, we have no doubt, that in localities where the gooseberry is free from the mildew, in our climate, the inferior size of the fruit is mostly to be attributed to the improper mode of pruning.

In order therefore, that cultivators may have the benefit of good advice, we present them with Mr. Thompson's views on pruning the gooseberry, illustrated so plainly by the engraving, (*fig. 6,*) that any judicious cultivator cannot fail to be greatly benefitted by their perusal. The article is from the *Gardener's Chronicle*.

THE GOOSEBERRY.—Left to its natural growth, the Gooseberry becomes an almost impenetrable thicket, not at all adapted for producing such fine fruit as is produced by plants properly cultivated and pruned. The natural habit of the Gooseberry is that of a bush, with a strong tendency to renovate itself by suckers, and the more vigorous these are, the more liable are the old branches to fall into decrepitude and decay. To prevent this confusion, arising from a superabundance of shoots and suckers, the pruning-knife must be employed, and that, too, at an early stage of the individual existence of the plant.

In the accompanying engraving, it will be seen that the

wood-buds, *a, a, a, a*, are on the last summer's shoot, whilst the fruit buds, *b, b, b, b*, are on two years old wood. The buds marked *a*, are called wood buds, because from them young shoots are produced, but usually not from all of them; for it appears, that of the buds on the two years old wood, which, a twelve-month back, were similar to those now marked *a*, three had produced shoots, *c, c, c*, and the others formed the fruit buds, *b, b, b, b*.

Gooseberries are usually propagated by cuttings. These may be taken off as soon as the young wood has acquired a tolerable degree of firmness, whilst the fruit is on the tree, and planted with success, if proper shade be afforded. But, generally, the cuttings are taken off and planted in autumn, winter, or spring; but early in autumn is the best time. Cuttings of almost any length may be struck; but where there is choice, those that are moderately vigorous and firm-wooded are preferable; and, if cut off close by their bases, so much the better. They may be shortened by cutting off the points to ten inches in length; in that case, if inserted in the ground to the depth of three or four inches, then allowing three inches of clear stem, the shoots from the three upper buds of the cutting will form the first branches of the plant. It is not natural for the Gooseberry to have much of a naked stem; one of three



Fig. 6. Gooseberry.

a, a, a, a. Wood buds.
b, b, b, b. Fruit buds.
c, c, c. Young shoots cut back.

inches is considered sufficiently long. If the cuttings are too short to admit of this, then the lateral young shoots must be trimmed off closely, when the plants are removed. But whatever length of cutting is used, all the buds ought invariably to be removed from the portion intended to be inserted in the soil; for, if not removed, they will most probably make their unwelcome appearance some day in the form of suckers. Some also dress off the prickles; but this is of less consequence, for being only dead substance, they rot off in the ground.

After the plants have formed shoots, these must be shortened according to their strength; if moderately strong, to about six inches. In shortening, care must be taken to cut to a bud pointing the most towards the direction which the branch should follow, in order to complete the form in which the plants are intended to be kept. The general mode is to keep the bush hollow in the middle, and six, eight, or ten branches, at equal distances, or as nearly so as possible. If two branches are likely to approach too near each other, one or both must be cut to buds pointing in the opposite direction; thus, in the accompanying figure, supposing the branch were intended to be prolonged more towards the left, then the young shoot is properly cut, as represented, for the uppermost bud *a* to proceed in that direction. On the contrary, if the uppermost bud *a*, had been on the inside of a shoot, of which it would have been desirable that the direction should be outwards, towards the right, then it would have been entirely wrong to cut at that bud.

Observing thus to cut at proper buds, each leading branch may be made to diverge outwards, or to either side, to an extent sufficient for ordinary cultivation. The pruning of one of the leading branches may now be detailed from its commencement. In autumn, or early part of winter, the shoot ought to be shortened to some extent, bearing in mind that generally the three buds immediately below the section will break into shoots; therefore, it will be advisable to cut where another leader is required to originate. This is the first winter pruning. The second will consist in shortening

the leading shoot about one-third; and also the other shoot intended for an adjoining leader. If there should be another young shoot growing strongly where not wanted, it may be cut off close; and others, weaker, may be cut like that marked *c* on the right of the engraving. The next season the leader should be shortened, and laterals cut to one eye, if weak, but otherwise three or four eyes may be left on these, some of which will probably break into shoots, and others will form fruit spurs. The other branches will require a similar treatment. Young shoots should be trained up to supply the place of any branch exhibiting symptoms of decay.

In the midland and northern counties, an open cup form of bush is generally aimed at in pruning; on the contrary, in some cases in the south, although the branches are pruned and thinned, yet some are left in the centre for the purpose of shade, otherwise the fruit would be scorched. Gooseberries may be trained to a considerable height on trellises, arbours, &c.; but where such is proposed to be done, free, upright growing sorts should be selected. In some places they are trained horizontally, by means of hooked pieces of wood, for pulling down, and forked pieces for pushing the branches up to a horizontal position where necessary.

On again referring to the engraving, it will be observed, that the fruit-buds are on the two years old wood; and on wood of this age, the largest and finest fruit is produced. But fruit-buds or spurs may be seen on wood much older. Strong young shoots occasionally break out from old wood, and if they are shortened, to keep them within bounds as short laterals, fine fruit may also be obtained from them.

ART. IV. *Pomological Gossip.*

BEURRE' LANGELEIER PEAR.—This fine new pear, which fruited for the first time in this country last year, proves to be one of the best winter varieties yet introduced. A single specimen, produced on a tree, in the garden of Dr. C. F.

Chaplin, of Cambridge, was exhibited at a late meeting of the Horticultural Society, and tasted by the committee. This specimen was blown off the tree by the gale, in the early part of October last, and did not acquire its full size ; but, notwithstanding this, it ripened off so as to maintain the high reputation which it had previously acquired. In size, it is as large as the Napoleon, and something of the same form, with a smooth, deep green, glossy skin, slightly shaded with red on the sunny-side,—claiming a rank among the handsomest, as well as the best pears. It has a very fine grained, buttery, melting and juicy flesh, and a rich vinous sprightly flavor, quite different from most winter varieties. We have a drawing and full description of it, which we shall present to our readers in the course of the spring. It will be an indispensable addition to every collection. A brief account of this pear will be found in our Vol. XII., p. 336.

THE PLUM IN THE VICINITY OF ALBANY AND BUFFALO, N. Y. Dr. Wendell, of Albany, in his report to the North American Pomological Convention, supplies the following information on the culture of the Plum in the neighborhood of that city, so long celebrated for its superior growth of this fruit, and from whence have been disseminated many of the finest native varieties we possess. His remarks are worthy the attention of those who are making selections of this fruit, as those kinds which succeed around Albany will all do equally well farther North and East ; the climate being fully as severe as in any part of Massachusetts :—

The vicinity of Albany, having long been known as a region of the state in which plum trees have grown and bore fruit in great perfection, I may be expected to treat more voluminously of them than of some others. The soil apparently best adapted to the well doing of this tree and fruit, being that which contains in it a large proportion of argillaceous matter ; and as nearly every locality in the immediate vicinity of the city, is well supplied with that ingredient, the reason of the success in the cultivation is very obvious. All varieties of hardy constitution grow well, and

bear abundantly, notwithstanding that pest to plum cultivators,—the Curculio, destroys every year a large proportion of the crop. Various remedies have been recommended for the protection of young fruit from its attacks. I would therefore recommend the growers to try such as they consider most rational, and communicate the result of their experiments to the public, through the Horticultural journals of the country. Plum trees are also with us liable to the canker or black wart; the poorer varieties and those of dark colour, are thought to be most apt to be affected with it. Planting on well drained lands, thorough cultivation around the trees, and manuring them with lime, ashes, and a small quantity of salt, will, by the tonic effect induced, render them more likely to escape the disease than if left to themselves; but if the trees are attacked, notwithstanding this course be pursued, free amputation of diseased limbs must be resorted to. The varieties which are cultivated, hardy, and bear abundantly, are the Drop d'Or, Reine Claude, Washington, Red Magnum Bonum, White Magnum Bonum, Yellow Egg, Virgin, Coe's Golden Drop, Nectarine, Prince's Imperial Gage, Lombard, Lawrence's Gage, Bleecker's Gage, Deniston's Red, Albany Beauty, Mulberry, Buel's Favourite, Jefferson, Peter's Large Yellow, Columbia, Schenectady Catherine—a delicious purple plum equal to Reine Claude—fully described in volume 13th of *Hovey's Magazine*, and copied therefrom into the Volume for 1847, of our State Agricultural Transactions,—Ickworth's Imperatrice, Coe's Late Red, Prune D'Agen for Prunes, Purple Favorite, Red Gage, and a few others. The Prune Pêche, or Peach Plum, is not sufficiently hardy to withstand our winters, as is the case with the Orange, the Rivers's Seedling—so highly recommended by Rivers in a recent number of the Horticulturist—the Roe's Autumn Gage, the Bingham, the Fotheringham, the Royal Hative, and Louis of Orleans. The Waterloo, the King of Plums, and the first importation of Reine Claude de Bavay, prove to be Coe's Golden Drop. This was predicted by Mr. Rivers, in relation to the latter, as some mistake had occurred with it by ignorant continental nurserymen; the second im-

portation may be correct, and meet our expectations ; it is now under trial.

GUTHRIES APRICOT PLUM,—a beautiful variety has fruited for the first time in Albany this season—1849.—Its size varies from medium to large ; its form is oval, but slightly flattened at either end ; its exterior colour is of a rich lemon yellow, with fine crimson dots around the stem, and on the exposed side ; its texture is rather firm, but juicy and rich. The colour of its flesh is yellow ; its flavor is of an apricot character ; its stone is small and adherent to the flesh ; its stem is inserted in a narrow but deep depression. The colour of the young wood is light greenish red ; its growth upright and quite thrifty ; its season of ripening, from the 25th of August to the 1st of September. It originated from seed planted at Guthrie in Scotland, and as it proves to be hardy and prolific, and is also a handsome fruit, it may be considered by some, a desirable acquisition ; although its season of ripening is the same as many of the finer American seedlings, which far surpass it in size and deliciousness, as well as lusciousness of texture and juice. I myself do not consider it worthy of general dissemination ; notwithstanding it well deserves a place in the amateur's collection. There are a large number of seedlings, possessing more or less excellence ; some of them but very little inferior to many of the well known varieties above named—growing in the vicinity of the city ; but as the standard of excellence, which new varieties must attain in order to entitle them to name or notice is, that they are *superior* in some particular to *any* now under cultivation ; and as none of them come fully up to that high requirement, I cannot give them further attention."

W. R. Coppock, Esq. of Buffalo, also communicates some information upon the culture of the Plum in the neighborhood of Buffalo, where it succeeds finely : in connexion with Dr. Wendell's report, it will show what are the varieties most esteemed for general cultivation :—

The Plum, no less than the Cherry, flourishes well with
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us ; it riots in good living in a not too light soil ; indeed, both the Cherry and the Plum luxuriate in a stiff clay loam that is well worked and drained, and contains a full share of the inorganic constituents which composed it. The chief and only enemy it has to contend with, is the Curculio. Of the many receipts that have been chronicled as certain cure, none with us, other than the mesmeric manipulation of that veteran Pomologist, David Thomas, "*stays put.*" That is, catch them and draw, if you please, their proboscis.—Paving, salt, sulphur, &c. &c., are of no avail ; the truth is, the animal flies, and is abundantly found in our Western woods. In close settled districts, cities and towns, would our plum-loving friends be industrious for a few seasons, the race, I am satisfied, might be annihilated. In my own case, where, a few years since, they ruined every plum and apricot, they have, by this method of the spread sheet, &c., nearly disappeared ; last season I paid a penny each for every specimen ; this season I can well pay in plums.

We have, I am sorry to see, harbored among us, a great many mongrel seedlings, many of which, I have no doubt, are from the Green Gage, being somewhat larger, some resembling Bleeker's Gage, others, Prince's yellow Gage, and again like the Drap d'Or. None, however, are equal to the parent, or the varieties mentioned, and whose good name they have pilfered. In flavor, they have no marked character, but a sickish, clammy, unwholesome dry flesh.

The varieties most esteemed are,—Washington, Lawrence's Favorite, Bleeker's Gage, Green Gage, (seldom found true,) Purple Favorite, Coe's Golden Drop, Prince's yellow Gage, Diapree Rouge, and for a late plum for preserves, Frost Gage, and for the same purpose we might add the White Magnum Bonum, from its fine size and color. The balance of the Magnum Bonum and Egg family are coarse, tasteless, and valueless cumberers of the ground."

Dr. Wendell has made a slight mistake in regard to the origin of Gutheries' Apricot Plum. It was not raised at Gutherie, but was produced by Mr. Gutherie, of Tay Bank, Scotland, who also raised several other sorts which promise well.

ART. V. *Propagation of Plants by Cuttings.* By WILLIAM SAUNDERS, New Haven, Conn.

THIS is one of those manipulations in gardening, which require more than an ordinary degree of skill in its execution, and from the exceedingly varied success of different individuals, one would suppose, that something more than mere practice is necessary to ensure complete and unvarying success. This fact is more apparent, when we consider the numerous casualties by which cuttings are affected, and our imperfect knowledge of the laws that govern the mysterious organization of vegetable life.

This diversity of success may partly arise from the different notions which different persons have of the same thing ; and it may frequently be traced to an unwarrantable reliance which some persons place upon certain points of practice, having in reality, no relation to the demonstrable theorem upon which the subject in question rests. Every one acquainted with the art of propagation is aware, that, under certain conditions, cuttings will grow and make shoots without forming rootlets ; while under others, the same cuttings will produce rootlets without manifesting the slightest elongation of its external buds. Again, under certain circumstances, the leaves of some kinds of cuttings will turn yellow and decay, while under others, the same kind of cuttings will remain green and healthy for months together, even without forming roots. The effect produced upon one subject, is precisely the same upon all subjects of a similar nature, placed in the same conditions, proving that the art of propagation is not, (as it is in the hands of many,) the mere consequence of an unguidable operation, successful or otherwise, as chance may direct, but that it is founded upon principles which cannot be violated with impunity, if we wish for satisfactory results.

From these observations it is obvious, that something more is requisite, than merely to know how to make a cutting and

prepare the place for its reception ; and although these matters also require some attention, it appears to me, that they are the least important parts of the process ; and from the want of a proper recognition of the other parts, many of the failures that occur may be attributed. It is, therefore, my intention, in the present paper, to treat upon some of those points which are necessary to ensure success in this interesting and important branch of horticulture.

Conflicting opinions have been given upon the influence of leaves, in enabling the cutting to emit roots. Some very successful propagators maintain that the more leaves left upon a cutting, the more rapidly will roots be emitted ; and in particular cases, this is partly true. It is no less true, however, that cuttings, entirely divested of leaves, will also produce roots abundantly, and that too, under conditions seemingly less favorable than in the former case. These considerations involve a highly important question in vegetable physiology, and one that has not, so far as I am aware, received that amount of attention which it deserves.

Something like the following argument, has been adduced by various propagators, in favor of their system of retaining the leaves, even to the base of the cutting, when practicable ;—that there is no suspension of vital energy, as the leaves continue to perform their proper functions, and thus prepare, at the very time it is most required, a supply of organized matter, which is immediately expended upon the formation of rootlets ; and that this suspension will be regulated by the number of leaves, and their distance from the base of the cutting ; the assimilated matter for the production of fibres being secreted rapidly or otherwise, according to the quantity and quality of the leaves left.

From this, we are led to infer, that the matter of which the rootlets are formed, is the result of, and dependent upon, the assimilating power of the leaves. Hence, according to this train of reasoning, we can arrive at no other conclusions than the following :—The more leaves left upon a cutting, the sooner will it root, and, when leaves and other means of

assimilation are absent, (as is frequently the case,) roots will not be formed at all.

We know, however, that both these inferences are erroneous, and more especially with regard to the latter, from the fact, that roots are produced in abundance without the aid of leaves, and this certainly could not be the case, if the nodules that are formed previous to the emission of roots, were produced by any safe, elaborating process. Although we allow that the young bark of some plants, does, under certain conditions, perform the same functions as the leaves, it is only an exception to a general rule, and can have little effect, either for good or evil on the subject in question. We cannot, therefore, regard the above argument as giving a satisfactory explanation of any superiority possessed, or advantage to be gained, by retaining leaves on cuttings.

Leaves are not absolutely necessary for the formation of roots. Instances have come under my own observation, of bulbs doubling their size and filling a large space with roots, when covered with four or five inches of soil, without producing a single leaf; and every gardener is aware of the beneficial effects resulting from the application of a genial warmth, (bottom heat,) to the roots of plants, which is neither more nor less than getting the roots, as it were, a stage in advance of the foliage. On the same principle, unhealthy plants, as camellias, oranges, &c., are resuscitated by keeping the roots warm and the tops cool, to ensure a healthy and vigorous action of root, previous to exciting the stem and branches; and this is often done after the plants are entirely divested of leaves.

There are others, who do not ascribe so much influence to the leaves, but assert that the rootlets are produced from the stored-up sap existing in the cutting at the time it is planted. Acting upon this supposition, they are careful in keeping the soil moist, and covering the whole closely with a glass, preventing communication with the external air, in order to avoid mechanical evaporation. This may seem plausible enough, but if we insert a deciduous cutting into moist earth, we will find, in the course of a few weeks, a mass of newly formed

tissue at the lower end. Has this been produced solely from the stored-up sap? All the sap that existed in the cutting, could not have formed such a mass of matter as we frequently find accumulated at the base of very small cuttings. In this, as in the case of bulbs, it is evident that the roots are not formed exclusively from the stored-up sap.

Further,—to show the futility of the opinion, that the emission of roots is dependent upon elaborated sap, let us look to the conditions under which a cutting with leaves,—supposed to be under good management,—is usually placed. We find it closely covered with a bell glass, and shaded from light, and instead of giving it the benefit of a little fresh air occasionally, the water required to moisten the soil is applied outside the glass, and the latter will not be removed for weeks together. The fact of roots being formed under these conditions is a convincing proof, that it is not through the agency of leaves, as will be seen from the following extract:—

“It is from the continued assimilation of the elementary constituents of plants, that new products result for the formation of woody fibre, and all solid matter of a similar composition.

“This assimilating process is principally carried on in the leaves, or occasionally in the young green bark.

“To enable the leaves to perform their functions, they must be exposed to light and air, *especially to air in motion*, for without these be allowed to act upon them, they cannot exercise their power of assimilation.”

We see from the above, that leaves confined under a bell glass and shaded from light, cannot perform their functions, and of course, cannot benefit the cuttings, nor remain long in a healthy state, consequently they ought to be exposed to as much light and air as their altered conditions will permit, and bell glasses dispensed with as far as possible, as their use is only substituting a greater evil to counteract a lesser.

Scientific research has failed to discover the true nature of the chemical changes and transformations that are constantly

being produced in the interior of plants. The vital principle seems to guide and direct the various combinations that the simple elements which they absorb, undergoes within their vessels. But the process by which the elaborated sap is converted into cellular tissue, or any other form of vegetable structure, or the mode in which water and carbonic acid are changed into gum or sugar, is, and may for ever remain a profound mystery.

From the view I have taken of the subject in question, I am led to the conclusion, that the callosity formed on the base of a cutting, is produced by the aqueous matter which it absorbs from the soil, mingling with the stored-up sap, and undergoing a change in the interior of the shoot, analagous, probably, to that carried on in the germination of a seed.* Judging from the external appearance of this accumulated matter, some such combination appears likely, as it is apparently a mass of imperfectly organized woody fibre. As it extends, it takes the appearance and performs the functions of a spongiole, and gradually becomes converted into true woody fibre, as the cutting increases in growth.

It is not to be inferred from the above, that the whole of the leaves ought always to be removed from cuttings; this, in the majority of cases, would be positively injurious; but I think it sufficiently clear, that the leaves perform no active part in the *first* formation of roots; consequently they ought not to be excited into growth, but placed in the *lowest* average temperature consistent with the nature of the plant, while the soil in which they are inserted should approach the highest range of temperature the roots will endure; to stimulate into activity the processes carried on in the vessels beneath the surface of the soil. And the more completely the upward growth of the cutting is retarded, until rootlets are formed, the greater chance has the cutting to thrive.

* Diastase is always present in the germination of seeds. The willow contains a large quantity of starch among its woody fibre, and cuttings if it emit roots freely. May not diastase be formed at the base of the cutting, to transform the starch and render it soluble and fitted for facilitating the emission of roots? And may we not form an idea of the facility with which cuttings strike root, by the amount of starch contained in their structure?

The great stimulants of vegetable life are heat, air, light, and moisture; and in the management of cuttings, these agents require to be regulated with the greatest nicety and precision. The more leaves upon a cutting, or the softer its texture, the more care is necessary, as it is the more liable to suffer, either from excess or deficiency of any one of these agents. For instance—if the cutting is subjected to a high temperature, it will cause an immediate expansion of its buds, and elongation of stem and leaves. Or, if under the influence of an arid atmosphere, the dry air will quickly act upon the moist leaves, exhaust the sap and render them flaccid. The same result will follow, if light be admitted in excess, as it will paralyze the energies of the cutting, by a too rapid decomposition of carbonic acid. Again, if the soil be kept too dry, there will be no accumulation of matter at the base of the cutting, the dry soil absorbing it as fast as produced. On the other hand, if water be administered too copiously, the total destruction of the cutting will rapidly ensue; if decomposition once commences, it soon communicates its qualities to the whole.

In this, as in many other horticultural operations, no definite rule can be prescribed, to be equally applicable in every case. Hence, the many contradictory directions often given upon the same subject, which may be either right or wrong, just according to circumstances. There are various methods of modifying the extreme influence of the agents employed in the economy of vegetation. While cuttings are forming roots, the presence of light may be modified by keeping them a sufficient distance from the glass, or by inserting them into a large pot only half filled with soil. A humid atmosphere is easily maintained by the evaporation of water; and to prevent saturation in the soil, the pots ought to be well drained. By inverting a small pot inside a larger one, a chamber is formed, which allows a salutary access of air and heat to the base of the cutting; at the same time affording a ready egress for superfluous moisture.

It may appear difficult to secure at all times, the exact conditions required; nevertheless, they should be aimed at, and

the nearer they are attained, the sooner will the cutting form roots. It is only from a happy combination of all the essential points that we are to expect constant success; and the latter will follow in an exact ratio, as the harmony of the elements of growth are secured.

New Haven, February 7th, 1850.

ART. VI. *Tropæolum Lobbianum.* By T., New York.

I SEE an incidental mention, in your January number, of the *Tropæolum Lobbianum*. A few seeds of this showy plant were sent me last May, from Paris, and they were planted in a pot, as soon as received; they were up in a few days, and gave promise of such robust growth that I made an experiment, turning a part of them into the flower beds, out of doors, in a compost of light, rich, sandy loam. They immediately took to the ground, and grew with such rapidity as to require a strong, circular, rough-made frame, sending out laterals in every direction, and running up four feet, densely covered with a cheerful green *Nasturtium*-like foliage. Having no indication of flowers up to October, I suspected our summer was not long enough, so I lifted the plants, with a good ball of earth, and put them into rather large pots, well drained, with peat siftings and decomposed turf, and placed them in the greenhouse, near the light. They soon established themselves in their new quarters with a thriftiness of habit that seemed to imply they were quite at home; and by the middle of November were in handsome bloom, and have continued up to this time, with no sign of diminution, a mass of brilliant (really "*brilliant*,") orange scarlet flowers, imparting to the greenhouse cheerfulness and beauty, contrasting so pleasingly with the profusion of camellias, acacias, azaleas, and cinerarias, with which they are surrounded.

I made an experiment with a part in doors, (in pots) all summer, under obscured glass, but found not much difference; those out of doors were rather more robust. A good

method would be to grow them in pots plunged in the ground, giving them a couple of shifts, the last remove about the first of September, as it seems yet inclined to grow rap-

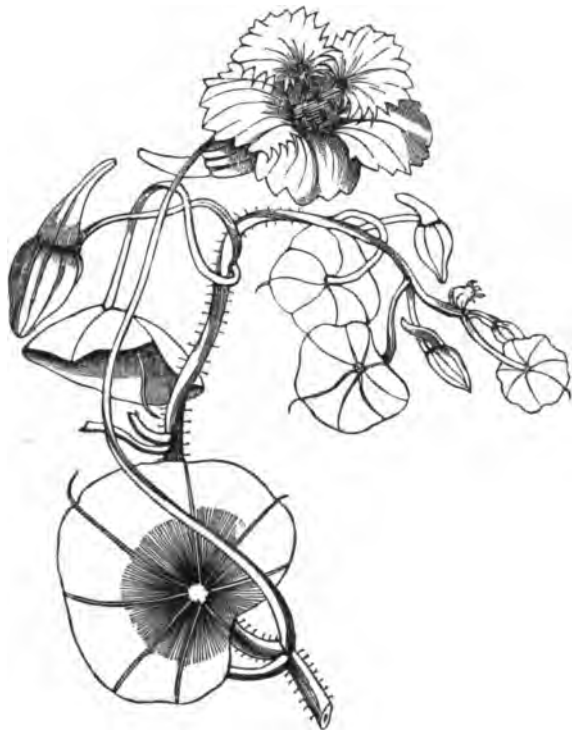


Fig. 7. Tropæolum Lobbianum.

idly. It appears to strike freely from cuttings, so that, no doubt, it will be plentiful and cheap, next spring. The foliage is much larger than *T. tricolorum*, or *Jarratti*, and more of a *Nasturtium* appearance, which rather adds to its merit. I have observed that the foliage injures by being exposed too long to the direct rays of the sun; perhaps during summer an exposure where the sun is off by noon, would be preferable. Plants raised from cuttings, however, may do better, as they have more stamina than seedlings planted late, and *driven* forward with heat and moisture. Flowering during the winter is its sterling quality, and when intermixed

with white camellias and Neapolitan violets, in a bouquet, has a cheerfulness of color, and a contrast which is most pleasing.

New York, Jan. 24, 1850.

Since our notice of this fine species, at the page alluded to above, (10,) our plants have been constantly in bloom, and have appeared so great an addition to our stock of mid-winter blooming plants, that we were just on the point of preparing a more extended account of it, with an engraving, when the above excellent hints on its management, came to hand, relieving us of the necessity of doing so.

We therefore present our amateur friends with the annexed representation of this brilliant *Tropæolum*, remarking, however, that justice cannot be done to it in so limited a space. A plant rambling over a circular or balloon trellis, three feet high, with hundreds of its glowing, butterfly-like flowers, wreathed among its velvety, circular, bluish-green foliage, must be seen, to give a true idea of this charming plant. It is a native of Colombia, in S. America, and was found by Mr. Lobb, the collector of Messrs. Veitch, of Exeter, England, who introduced it in 1843. It may be raised from seeds, or cuttings which strike readily

MISCELLANEOUS INTELLIGENCE.

ART. I. *General Notices.*

GESNERA ZEBRINA.—A more useful plant than this for decorating the stove and conservatory during the autumn and winter months can hardly exist. The long period which it remains in beauty, the richness of its blossoms, and the elegantly marked velvet foliage, form altogether a very rich effect. The only disadvantage attending its growth, arises from its brittleness and consequent liability to damage in a crowded house of plants. If you can grow it well, and afford it ample room for display, it will abundantly repay all the attention you can give it.

To produce it in the noble form of which it is capable, one plant only must be grown in a pot. By so doing, plants more than two feet high may be easily obtained, crowned with a magnificent raceme of flowers, twelve or fourteen inches in length. There is one peculiarity about this plant which requires attention. When it is put into its blooming pot it should be

placed an inch deeper than before, and for this reason: Like the noble Japan lilies, it throws out the greater part of its roots, (i. e. its true roots, by which nourishment is obtained; the parts by which the *Gesnera* is propagated are strictly speaking stems,) if left to itself, immediately at the surface of the soil; and if advantage is not taken of such a peculiarity, all the resources of the plant are not developed.

The following will be found a tolerably successful course of culture: When it is thought desirable to start the dormant plants in spring, turn them out of the pots they had previously occupied, and, selecting the most promising "roots," plant four round the inside of a four or five-inch pot, using a soil chiefly composed of leaf-mould and sand, and place them in a gentle bottom heat, as a cucumber frame in which young plants are being raised. As soon as the young plants are an inch high, or when they have two fully formed bases, give each a separate pot, say a four-inch, replace them in the bed, and at the expiration of a day or two give them a good watering. As soon as they are somewhat established, they must be removed to another pit or frame, in which they can be supplied with plenty of air to keep them robust, as one great beauty of the plants will be to enable them to support themselves without the assistance of a stake. Immediately sufficient roots are formed to enable you, repot them, without breaking the ball; put them in their blooming pots;—nine-inch pots are a very good size—handsome plants may, however, be grown in eight-inch pots. The soil this time should have an addition of one-third very fibrous loam, to give it consistency, and to enable it to retain moisture, as they absorb much. The plants will be much benefited if kept in an airy pit or frame till their growth is nearly completed, and the pots filled with roots, when they may be removed to the stove, and supplied with liquid manure, while the flowers are forming, and till they expand, when the plants may be removed to the drawing-room or conservatory, to either of which they will form beautiful ornaments, remaining as they do for whole weeks, and almost months in perfection.

It may not be generally known that there are two varieties of this plant, and that one is very superior to the other in every respect. Had I not grown them side by side for two seasons, I should have believed that treatment must have had something to do in the matter, but I am convinced that it is otherwise. One of the varieties is of a more compact, more robust habit than the other, and its foliage is much larger and more richly and beautifully marked, and bears a raceme of larger flowers, which are set closer upon their axis, and the whole appearance of the plant is much superior to the other. This plant is very liable to be infested with the mealy bug; they congregate in the flower-heads when forming, and if not removed, will seriously detract from their ultimate beauty. The most desirable, and at the same time, most effectual mode of getting rid of them, is to remove them with a small brush. Never crush them on these plants—wherever you do so the stem at those places assumes a black decayed appearance, and is very unsightly to look upon.—(*Gard. Chron.*, 1849, p. 780.)

ROSA MANETTI AS A ROSE STOCK.—The following letter from Mr. Appleby, of York, will perhaps save you a little labor; it is all true.

"When you were here, in September last, you requested me to send you an account of my success with the *Rosa Manetti* as a stock for roses generally. I got a few (I believe about 20,) from you about four years ago, and, having great faith in what you said respecting its capabilities, I was determined to give it a fair trial, and accordingly I endeavored to make the most of it. I planted them out as stools, and the following winter I took the crop of cuttings and planted them in the usual manner, and I am not aware that I lost one of them. Those I also planted out as stools, and the crop of cuttings this time was planted in rows 18 inches apart, and 6 inches in the row. This was in the month of March, 1847, and in August following, they were all fit for budding. I say all, because I do not think that ten in a hundred died, although they were fully exposed to the weather in an open quarter. Some of these were budded as late as the last week in September, and still they took well generally. They broke freely in the spring following, and by the autumn many of them were as high as myself, which quite delighted me, for I had never seen any thing in rose culture like them. I now valued *Manetti* cuttings like gold, and I ordered my men not to throw away an inch that was likely to make a plant. In the spring of 1848 I was enabled to make a tolerably good plantation of them; and, although they were planted late, (I believe in the beginning of April,) and the season set in dry, I nevertheless lost but few of them; but they were late in getting hold of the ground, and I did not get them budded until the end of September, still the buds took well as before, and you were yourself a witness to the progress they have made. There are many sorts amongst them that I could never get to thrive—in fact, scarcely to exist—upon the brier, that are now (in one year) from 3 to 4 feet high, and strong in proportion; and others (that are free growers) I have 6 feet high, with from 6 to 12 shoots from each bud. I will here enumerate a few sorts that are known to be bad growers upon the brier, and state the height which they have attained in one season. I will begin with *Eblouissante de la Queue* (Gal.), grafted in April last, now 3 feet high and strong; *Chateaubriand* (Damask), also grafted at the same time, 3 feet; *Perle des Panachés* (Gal.), budded in September, 1848, now from 3 to 4 feet; *Tricolor de Flandres* (Gal.), budded same time, 3 to 4 feet; *Cynthia* (Gal.), budded same time, 2 feet; *La Chérie* (Damask), budded same time, 2 feet; *Crimson Perpetual*, budded same time, 3 feet; *Rivers* (Laffay's), same time, 4 feet, and many others of similar habit of growth have made the same progress. Then, of stronger growing sorts, the following (which were all budded in September, 1848,) are now respectively the heights quoted, viz.: *Bourbon* (Splendens), 5 feet; *Comte Plater*, 6 feet, very strong; *Diane de Poitiers*, 6 feet; *Madame Stoltz*, 4 feet; *Dombrowski*, 5 feet; *Moss Laneii*, 5 feet, and some of them with a dozen shoots from one bud; do. *Lancel*, 4 feet; do. *Louis Colet*, 4 feet; do. *White Bath*, 4 feet; do. *Blush*, 5 feet; do. *Crimson*, 5 feet; do. *Malvina*, 5 feet; do. *Moussue Partout*, 5 feet; do. *Presque Partout*, 5 feet; do. *De Metz*, 5 feet; *Comte de Flandres* (Gal.) and *Spotted Provence*,

5 feet; and in Bourbons, I have *Acidalie*, 3 to 4 feet; *Desgaches*, Cardinal Fesch, and *Madame Ande*, 4 to 5 feet; *Madame Nerard*, B. Queen, and *Anne Beluse*, 2 feet; (these have been in bloom from last May, and are still covered with buds and bloom); *Princesse Clementine*, *Emilie Courtier*, and several others are from 2 to 3 feet, and have been constantly in bloom all summer. In the Hybrid Perpetuals I have *Robin Hood*, 3 to 4 feet, and complete bushes; *Cornet*, 5 feet, very strong; *Sidonie*, 4 feet, and most robust. Every plant, if standing singly, would have the appearance (in size) of a large dahlia plant at this season of the year. *Géant des Batailles* would have been quite as large, had they not been cut down for buds. *Baronne Prevost*, *Mrs. Elliot*, *Duchess of Sutherland*, *La Reine*, *Madame Laffay*, *Wm. Jesse*, and several others, are all similar plants; and *Jaune Desprez*, with some of the new *Prairie* roses budded on this stock, are 10 feet high in one season. The quarters of stocks which you saw (newly budded) when you were here in September, were all planted in March last, and are now from 3 to 4 feet high, and many of them an inch in circumference. They are budded with all the best sorts of roses; and I have especially endeavored to get those sorts worked upon them that have usually been bad growers, (though some of the best roses,) and of which I could never get any stock, and I have no doubt but the result will be to my satisfaction. Another year, I intend to bud those stocks with Bourbons, Hybrid Perpetuals, *Chinas*, &c., from 1 foot to 3 feet high, as dwarf standards; and I feel confident they will form beautiful heads. So confident am I of the superiority of the *Rosa Manettii* over every other stock for roses, that I shall never again plant any other, excepting for full-sized standards. All other stocks, in my light sandy soil, throw out quantities of suckers, which are constantly robbing the bud of its support, to say nothing of the labor they occasion to get rid of them; but this stock does nothing of the kind, unless a stray bud has been left on in dressing them, and then it merely comes up close to the stem, and is easily got rid of, as they never produce stolons or underground suckers. Another advantage is, that it thrives well on light soils, where the brier will not thrive at all; and this does away with all the objections that some parties have to worked roses, as all roses seem to do well alike on it—better, in fact, than upon their own roots, and no doubt they will bloom better. Besides, many roses on their own roots are constantly throwing a quantity of root suckers, and ultimately run wild. The above is a faithful account of my success with the *Rosa Manettii* as a stock for the generality of roses.”

The history of the *Manettii* stock is as follows:—Some 12 or 15 years since a Signor Crivelli, of Como, attracted by an article in Loudon's “*Gardeners' Magazine*,” wrote to me, offering to exchange some seedling Italian roses for choice named varieties. I sent him a small collection, and in return received from him some seedling roses; among them were *Rosa indica grandiflora* and *Rosa indica Manettii*, two very small plants. These he described as being hybrid China roses, and most valuable roses for stocks in the dry climate of Italy. I soon found, that although so much alike in habit as scarcely to be distinguished, they differed most materially in this respect;

the former could only be propagated by layers, while of the latter every cutting grew. I gradually increased my stock of the latter, and now propagate from 40,000 to 50,000 annually. As with all new articles in gardening, I had to buy some experience, for I found if I grew them in a rich soil and budded them at the usual period, the buds rotted; they appeared to be drowned in the superabundance of sap. At last I saw it was necessary to plant them in poor soils and bud them in September.—(*Gard. Chron.*, 1849, p. 742.)

CALLA ÆTHIOPICA, AS AN AQUATIC PLANT.—Here, in our fragery (a ditch so called), this plant thrives amazingly under the most primitive mode of culture. Indeed the only secret connected with its most satisfactory growth, seems confined to the protection of its root from frost. The water in which it grows may be sheeted over for any ordinary length of time, with ice of any reasonable thickness, so that it does not actually reach the root; moreover, it seems equally indifferent about the quality of the water, or description of soil in which it is located. Some twenty years ago, I had four roots planted amongst some other aquatics in the above-named ditch, with about eighteen inches of water, supplied from an artesian bore,* in one end of which the mud was at least a foot deep; in this, two of the roots were planted. The other end was bare gravel, so much so that we had to put stones upon the two other plants, by way of anchor, to keep them from drifting, till they made a few roots to hold themselves to the bottom. Three of them are now large masses (the fourth was killed the first severe winter after planting, the water not being deep enough, about eight inches, to keep the frost from the root), and grow and flower equally free on the gravel and in the mud; and a splendid appearance they have, from five to six weeks every May and June, having from sixteen to twenty flowers on each plant. Since first planted, they have been two or three times cut down to the surface of the water (foliage as well as flowers), at the end of April or beginning of May, by frost, but without receiving a permanent injury. By the end of July they had completely covered their elegant leaves; and although the second crop of flowers was neither so large nor so plentiful as those cut off, still they made a very tolerable show in the August and September following, and contrasted finely with the very different habit of some yellow and white Water-Lilies, their neighbors; indeed, I think it might be worth while to cut one of the plants down every spring, for the sake of the autumn flower. There are at present growing, in a small pond in the kitchen garden at Castle hill, two plants of the *Æthiopian Calla*, which have been in their present situation for at least seven years. They were formerly standing in pots in the greenhouse, and were removed to their present situation in the same pots, merely sinking them to the bottom of the pond. I may observe, that since they were removed to their present station they have increased to a large size, and at present stand at least 2½ feet above the water. They are

*This water coats every thing with rust in an incredibly short time, and many plants we have occasionally watered with it have died. Indeed, one very dry summer, we thought to have our lawn greener than other people's, and used this water very freely; the consequence was, that the grass died out in large patches, and yet these aquatics grow like willows in it. By the way, some weeping willows planted by it canker off in large branches.

occasionally cut down to the water's edge during winter, but never fail to produce abundant blooms during summer. The pond, in which gold fish are kept, is about 2½ feet deep, is formed inside of brick, and supplied with water from a jet in the centre.—(*Gard. Chron.*, 1849, p. 743.)

PRUNING AND TRAINING THE PEACH TREE.—It has been admitted by the majority of our most eminent practical gardeners, that the fan system of training peach trees is the best, and it is unquestionably the most natural; but, notwithstanding this, there are some evils to which the plan is liable, and which, by a little observation and care, may be avoided, even by persons little initiated in the art of practical gardening. A little observation will readily discover the tendency which the central shoots of the tree have to take the lead, and rob the oblique and horizontal branches of their due proportion of sap. These vertical shoots will gradually, from their position, become stronger and stronger; whereas the others, in like proportion, will gradually get weaker and weaker. The result of such a state of things must clearly be the death of the lower branches; the tree consequently becomes disfigured, and this unbalanced distribution of the sap naturally interferes with the regularity with which the crop is produced, as well as with the quality of the fruit itself. I would therefore, particularly direct attention to this important point, with a view to steer clear of the evil, which can only be done by attending early to it; for, if young trees are properly begun, and so continued for the first three years, it may in a great measure be obviated.

First, then, allow no strong shoots to exist in the centre of the tree, and this must be effected in the summer pruning, or rather disbudding. There need be no fear that there will be a deficiency of shoots in the centre. The next point is, to give the extremities of the under branches an inclination upwards. This will draw the sap in that direction, and relieve the middle of the tree. Again, never allow the intermedial central branches to extend so far as the others; the sap will, consequently, be controlled and regulated. The tree thus trained, will present a much more beautiful and natural form, the crop will be more regular and perfect, and the tree itself will continue to bear for a much longer time. The period selected for pruning the peach has, in most cases, been the spring. This is, however, the very worst time throughout the whole year for pruning this tree; as much of this kind of work as it is possible to perform may be more advantageously done in early summer, by regulating the buds, and by not laying in a much greater number of shoots than may be required to secure a sufficiency of bearing wood, keeping in mind that on the current season's growth the following year's crop mainly depends. By careful and continued disbudding during summer, so as to retain no more shoots than the tree's well-being and fruitfulness require, many evils will be avoided which winter and spring pruning obviously inflict.

When the crop is gathered, and the leaves begin to fall in the autumn, then is the time to regulate and shorten back the young shoots, practice having fully proved the advantage of cutting away at least one half of the young growth; and when this is of a weakly kind, two-thirds may be removed with advantage. After the tree is pruned, it may be left in a partially unfastened state until the following spring.—(*Gard. Chron.*, 1849, p. 743.)

ART. II. *Domestic Notices.*

ANNUAL EXHIBITION OF THE PENNSYLVANIA HORTICULTURAL SOCIETY.—The next annual exhibition will be held in Philadelphia, on Wednesday, Thursday and Friday, the 18th, 19th and 20th of September, next.

HORTICULTURAL SOCIETY OF THE VALLEY OF GENESSEE.—This society held its annual meeting on the 4th of February, 1850, at Rochester, and elected the following officers for the ensuing year:—

President, Levi A. Ward, Rochester.

Vice Presidents, 1st, Samuel Miller, 2d, M. G. Warner, Rochester, 3d, H. P. Norton, Brockport, 4th, J. J. Thomas, Macedon, 5th, Asa Rowe Sweden.

Corresponding Secretary, D. M. Dewey.

Recording Secretary, J. A. Eastman.

Treasurer, J. H. Watts.

Committees on Fruits, Trees, Shrubs, and Flowers, Vegetables, Botany, &c. &c., were also elected, (*New Yorker*).

NEW MODE OF PREVENTING THE POTATO ROT.—Dr. A. A. Hayes, of Boston, recently communicated a letter to the Hon. W. B. Calhoun, President of the Legislative Agricultural Meetings, upon a new mode of preventing the spread of the potato rot, after the crop had been harvested. Mr. Hayes states, "that the rapid decay which continues after the roots have been removed from the soil, is often of the most remarkable character, and aside from its economical bearing, is a subject of scientific importance. During the last season, I made trial of some chemical agents, which specifically arrest all vegetation, hoping to discover an application which would enable us to preserve the diseased potatoes from further changes. Early in the course of the experiments, it was noticed that a reduction of temperature by exposure to cold air, greatly diminished the rapidity of decay, while a slight increase of temperature hastened it; moisture being present or not.

Heat in a moist atmosphere increased the destruction, and samples which had been cooled, and thereby partly protected, readily passed through all the changes when again exposed to warm and humid air. After using several substances by direct contact with diseased parts of potatoes, I soon found that the mixture of sulphurous acid, nitrogen and common air, such as exists when sulphur is burnt in closed vessels, would prevent the further progress of the disease in tubers already affected, and when exposed in contact with tubers, passing through all stages of the disease, no further change in the prepared ones was induced.

The trials were varied, and the uniformity of the results has led me to conclude, that the fumes of burning sulphur, flowing in contact with potatoes partly diseased, will arrest the further progress of the disease and prevent decay. It is proper that this conclusion should be received as an expression of fact, under the circumstances of experiments on a small small scale, and with no more than two varieties of potatoes; but I confidently expect that the importance of the application will be seen in the largest exhibition of its effects.

The practical use of the sulphurous acid gas is very simple, and not expensive. Crude sulphur inflamed in a shallow cast-iron vessel, or an earthen pot, furnishes the fumes which may be led by wooden pipes, to the lower part of bins filled with the roots, until the unoccupied space is filled with them. As the fumes cool, they become heavier than air, and will then enter every interstice. By placing the pot of burning sulphur in an empty barrel and inverting over it a barrel filled with potatoes, having a light rack in place of a head, the fumes will slowly rise within and impregnate the mass; the barrel and contents being then removed, and the head replaced, the exposure may be considered as ample. Where the quantity is large, it would be more economical to leave a space vacant, below the loose floor on which they repose, and introduce these fumes until every part of the heap of potatoes has received a share.

It should be remembered that this application will injure, if not destroy the vegetating power of the tubers, and that although this result may be highly desirable, for all that are preserved for food, those intended for seed should not be so treated. *Respectfully, A. A. HAYES, State Assayer.*

ROBINSON'S DEFIANCE VERBENA.—This very brilliant scarlet verbena is said to be one of the finest that has been produced. It flowered abundantly, with Messrs. Thorburn & Co. at Astoria, last summer, and fully sustains its foreign reputation. As a bedding plant, it is a perfect gem, of a good habit, blooming freely, and producing large trusses of vivid scarlet blossoms.

NEXT FAIR OF THE NEW YORK STATE AGRICULTURAL SOCIETY.—The next Annual Fair of this flourishing society will be held at Albany on the 3d, 4th, 5th and 6th of September next. The premium list for 1850 was adopted at the last meeting in February, and ordered to be published.—*Ed.*

LASHMERE'S SEEDLING GRAPE.—Can any of the readers of your Magazine give me any account of this grape? It has been described as a white grape, rich and vinous in flavor, a great bearer, hardy, and well adapted for cultivation out of doors. In the first stages of its growth, the fruit is said to resemble the Muscat of Alexandria, but as it approaches maturity, it assumes a more globular shape. This is its character in England, where it seems to have gained for itself the character of the best grape for open air culture that has yet been produced. I am not acquainted with it; but am anxious to obtain it. If yourself or any of your readers, can give some account of it, how it succeeds in our climate, and where it can be obtained, it will oblige myself and some others. *Yours respectfully, R. B. LEUCHARS, Clifford House, Baltimore.*

[Any of our friends who can give the desired information, will oblige our correspondent as well as ourselves.—*Ed.*]

MILDNESS OF THE WINTER.—Up to the present time, (Feb. 26th,) the winter has been unusually mild and pleasant, with but very few storms of snow or rain, and the thermometer below zero but once, in the neighborhood of Boston, and that on the 5th of February. The prospect now is, of an abundant fruit crop of all kinds, particularly of peaches, should no late spring frosts intervene between this and May.—*Ed.*

ART. III. *Albany and Rensselaer Horticultural Society.*

The annual meeting of the Society was held at the State Agricultural Society Rooms, February 6, 1850, J. Rathbone, President in the chair.

The report of the treasurer was presented and accepted.

On motion of Dr. Herman Wendell.

Resolved, That a committee of three be appointed to nominate officers and to report a premium list for the ensuing year.

The President appointed as the committee, Dr. Herman Wendell, E. P. Prentice, and B. B. Kirtland.

Previous to the committee retiring, the President, Mr. Rathbone, informed the Society that he was grateful for the kindness which had been manifested to him in electing him as their presiding officer for the last three years; and that he desired to decline being a candidate for reelection.

The committee retired, and, on their return, reported the following named gentlemen as officers for the ensuing year:

President.—V. P. Douw, Greenbush.

Vice Presidents.—E. P. Prentice, Bethlehem; Dr. Herman Wendell, Albany; Stephen E. Warren, Troy; Amos Briggs, Schaghticoke.

Secretary.—B. P. Johnson, Albany.

Treasurer.—Luther Tucker, Albany.

Managers.—B. B. Kirtland, Greenbush; J. M. Lovett, Albany; L. Menand, Watervliet; J. McD. McIntyre, Albany; W. A. McCulloch, Greenbush; James Wilson, Albany; William Newcomb, Pittstown; E. C. McIntosh, Albany.

The report of the committee was accepted, and the persons named, were duly elected officers for the ensuing year.

Col. Rathbone resigned the chair, and introduced the newly elected President, V. P. Douw, Esq., who returned thanks for the honor conferred upon him, and assured the Society that his best efforts should be devoted to its interests and welfare, trusting that he should be sustained by the members in carrying out fully the objects of the association.

On motion of Dr. Herman Wendell,

Resolved, That the thanks of the Society be tendered to Mr. Rathbone, for the able and satisfactory manner in which he has discharged the duties of the office of president during the last three years, rendered peculiarly arduous in the organization of the Society; and that the Society is under great obligations to him for its prosperous and gratifying condition at the close of his services as president.

Standing committees on fruits, flowers, vegetables, &c., were also elected for the year.

FRUITS.—The Committee on Fruits beg leave to report, that there was exhibited by E. P. Prentice, of Mount Hope, fourteen varieties of apples, viz:—Winter Pearmain, Flushing Spitzenberg, R. I. Greening, Kilham Hill, Gloria Mundi, Poughkeepsie Russet, Golden Pippin, Tolman's Sweet, Red Gilliflower, Ancient Briton, Yellow Newtown Pippin, Vandervere, Peck's Pleasant, and Westfield Seek-no-Further.

By Dr. H. Wendell, eight varieties of apples, viz :—Swaar, Gravenstein, Vandervere, Yellow Newtown Pippin, Golden Pippin, Mela di Carla, Winter Sweet, and Granawinkle; also, Inconnue Van Mons pears.

By John S. Gould, Fall Pippin, Yellow Newtown Pippin, Green Newtown Pippin, and Roman Stem.

By S. Morgan, Pine Grove, nine varieties of apples, viz :—Red Gilliflower, Fall Pippin, Esopus Spitzenberg, Dominie, Golden Sweeting, Pen-nock, Nonsuch, Poughkeepsie Russet, and Yellow Belleflower.

By J. Cary, Isabella grapes, as fresh as when first gathered; have been packed in cotton, in jars, and excluded from the air.

By B. P. Johnson, a large collection of standard varieties from Messrs. R. G. Pardee, J. Campbell, R. H. Brown, J. Park, F. W. Lay, H. Foster, W. Rogers, Dennis Clark, and Robert Patterson, of Wayne and Monroe counties, and also a number of varieties from J. C. Hubbard, of Troy, Michigan, and L. P. Grosvenor, of Pomfret, Connecticut, all of whom will please accept the thanks of the Society. This display of fruits, grown at a distance from our immediate vicinity, gave increased interest to the exhibition, as it enabled the members of the Society to compare the fruits of their own orchards and gardens with those from abroad.

PREMIUMS.

APPLES.—For the best and most extensive collection, to E. P.

Prentice,	\$5 00
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For the second best collection, to S. Morgan,	3 00
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PEARS.—For the best one variety exhibited, Inconnue Van

Mons, by Dr. Herman Wendell,	2 00
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And a discretionary premium for Isabella grapes, to Jos. Cary,	1 00
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V. P. Douw, *Chairman*.

FLOWERS.—Owing to the cold weather, (5° below 0,) the competition was limited. Mr. L. Menand, J. Wilson, J. Rathbone, and V. P. Douw, Esq., were the principal exhibitors. Miss Eliza Carey exhibited an Herbareum, composed of more than one hundred dried specimens of indigenous flowers, which deserves the highest commendation of the committee, on account of the admirable preservation of the specimens, and their life-like appearance, as well as the manner of their arrangement. Each flower had its botanic description, its botanic name, its vulgar name, and an appropriate quotation indicating its signification in Flora's vocabulary. Also a collection of marine plants, gathered by Miss C. during the last summer, of over fifty specimens, arranged in the same manner, to the whole of which the committee award a discretionary premium of \$3.

PREMIUMS.

For the best display of cut greenhouse flowers, the committee beg leave to combine the first and second premiums, (making it \$5,) and dividing it equally between Col. Rathbone and Mr. Menand, as the collections were so equally balanced in merit as to render a different distribution of the prizes unjust to one or the other of the competitors.

For the best round hand bouquet, to J. Wilson,	\$2 00
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For the best flat hand bouquet, to J. Wilson,	2 00
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For the best six plants of different varieties, in pots, to L. Menand, of Watervliet,	3 00
CAMELLIA JAPONICAS.—For the best display of cut flowers with foliage, to J. Wilson, for 24 varieties,	3 00
For the best six varieties, to J. Wilson, for Abby Wilder, Saccoi Magnifique, Fimbriata, Lady Hume's Blush, Amabile, Ochroleuca,	2 00
For the best three varieties, to J. Wilson, for Abby Wilder, Saccoi Magnifique and Lady Hume's Blush,	2 00
PRIMROSES IN POTS.—For the best six varieties, to J. Wilson,	2 00
For the best three varieties, to V. P. Douw, of Wolvehook,	1 00
S. HOWARD, <i>Chairman</i> .	

VEGETABLES.—The Committee on Vegetables report that there was exhibited by John S. Gould several very fine heads of Cauliflowers, equal to any ever exhibited before the Society, and brought to this state of perfection by taking plants in the autumn,—which were partially grown,—and planting them in the cellar, to which they award a prize of \$2.

By V. P. Douw, Esq., half a dozen full grown heads of Coss Lettuce, to which they award \$2.

Also, fine Custard Squashes, by E. P. Prentice, Esq., and Orange Carrots, of large size, by S. Morgan, which deserve commendation.

ROBERT HARPER, *Chairman*.

ART. IV. *Massachusetts Horticultural Society.*

Saturday, January 26th, 1850.—An adjourned meeting of the Society was held to-day,—Vice President, B. V. French in the chair.

The treasurer was added to the finance committee to settle with the executors of the late Theodore Lyman.

The Committee of arrangements reported through their chairman, J. Breck, that the next annual exhibition should be held on Tuesday, Wednesday, Thursday, and Friday, the 17th, 18th, 19th, and 20th, of September next.

A letter was read from the Pennsylvania Horticultural Society, relative to the time of holding their next annual exhibition.

The committee appointed to take into consideration the resolution of Mr. C. M. Hovey, in regard to what alterations, if any, are necessary in regard to the exhibitions of the current year, asked leave to be discharged from any further duty, and that the unfinished business be referred to the Committee on the President's Address. Accepted.

Adjourned two weeks, to February 9th.

February 2d.—Exhibited.—FLOWERS: From Messrs. Hovey & Co., a seedling Camellia, very fine; form of flower rounding to the centre and full, petals broad, smooth, and generally very perfect. Color, a bright crimson scarlet, much the shade of the Bractea of Poinsettia pulcherrima; size of flower large. This is decidedly the most showy seedling Camellia that has been exhibited; the color is new, beautiful, and very rich; foliage

large, pointed, and acutely serrated.—For the Committee, D. HAGGERSTON, *Chairman*.

FRUITS: Pears.—Beurré Langelier, from Dr. C. F. Chaplin, Cambridgeport: a handsome pear of good size, bearing some resemblance to the Bartlett in its appearance; of a spirited, pleasant flavor, juicy, melting, and promises to sustain its European reputation.

Apples.—From C. G. Parsons, of Freeport, Maine, name not known.

Grapes.—From J. F. Allen, Chasselas of Fontainbleau, and Black Hamburgh, of last year's crop.

Pears.—From F. Tudor, Crassane. (?)

February 9th.—An adjourned meeting of the Society was held to-day,—the President in the chair.

The committee appointed to settle with the Mount Auburn Cemetery, made their annual report, as follows:

Total amount of sales,	\$14,568 28
Expenses deducted,	1,400 00
Net amount,	<hr/> \$13,168 28

Massachusetts Horticultural Society's proportion of net proceeds, one quarter, \$3,292 07, which sum had been paid into the hands of the Treasurer. The report was accepted.

Packages of seeds were received from C. W. Dabney, of Fayal, and Capt. Page Brewer, of Boston, and were placed in the hands of the chairman of the Flower Committee for distribution at the next meeting. The thanks of the Society were voted for these donations.

The committee charged with the duty of printing the reports of the committees, awarding premiums for 1849, were discharged from that duty.

Adjourned two weeks, to February 23d.

Exhibited.—FLOWERS: The exhibition of Camellias for premiums took place to-day, and there were only two competitors for the prizes, Messrs. Hovey and A. Bowditch.

From Messrs. Hovey, 22 varieties, as follows:—Double white, fimbriata, Mrs. Abby Wilder, imbricata, Derbyana, elegans, candidissima, philadelphia, tricolor, Donckelaéri, reticulata, speciosa, conspicua, ochroleuca, conspicua, (of the French,) conchiflora, Floyii, myrtifolia, Estheri, and Prättii.

From A. Bowditch, 10 varieties, including Wilderi and fimbriata.

PREMIUMS AWARDED.

CAMELLIAS.—For the best 12 varieties, to Messrs. Hovey & Co., \$8.

February 16th.—Exhibited.—FLOWERS: From Messrs. Hovey & Co., another of their new seedling Camellias, remarkable both for its color and form, it being the darkest camellia yet seen; the color a rich deep maroon, just the shade of Rivers's, Geo. the IV. rose. The flowers imbricated to the centre, the petals circular, and without the least indentation on the edge, and arranged with the greatest regularity. The foliage large, exceedingly rich, deep green, glossy, and slightly serrated on the edge. Habit of the plant erect and vigorous.

HORTICULTURAL OPERATIONS

FOR MARCH.

FRUIT DEPARTMENT.

GRAPE VINES, this month, will be the principal objects of attention in this department. They will now begin to start in all the houses, except in those wholly thrown open to the winter. In the greenhouse they will come forward more rapidly than in the vinery, on account of the greater temperature required for the plants, and by the middle of the month will show their flower buds. If they show any signs of breaking unevenly be on the look out to prevent it by timely tying down, or bending the shoots so as to throw the sap into those eyes which are dormant. Syringe morning, noon, and night, in good weather, and keep the house as cool as is safe for the well doing of the plants, until all the buds have advanced about an inch. In graperies nearly the same routine should be pursued. In cold houses the eyes will not advance much till the close of the month, but care should be taken to keep them well ventilated, that the vines may be kept back, and not be endangered by cool nights, which often occur in March. Vines in the open air may now be pruned, and tied up to the trellis. Vines in pots, now swelling their fruit, should be kept in a warm part of the house.

FIG TREES, in pots, now in full leaf, should be freely syringed, and the roots supplied with moisture.

PEACH TREES, in pots, should be liberally supplied with water and liquid manure. Peach trees may now be brought in for a succession.

STRAWBERRIES, in pots, should be kept near the glass, and be liberally watered. Give an abundance of air.

ROOT GRAFTING may yet be performed successfully.

PRUNING ORCHARDS should now be continued, and, if possible, the whole work accomplished before April.

RASPBERRY PLANTATIONS AND STRAWBERRY BEDS may be partially uncovered the last of the month.

SCIONS OF FRUIT TREES may yet be cut, keeping them as we directed last month.

GOOSEBERRY AND CURRANT BUSHES commence their growth so early, that pruning should be done this month if possible. See a valuable article in a preceding page.

FLOWER DEPARTMENT.

DAHLIAS should now be objects of attention with every gardener or amateur who wishes to keep up a good display of this fine flower during the summer. A few roots should be started now, and others in succession. Sow the seeds now in a hot bed.

CAMELLIAS will soon begin to make their new wood, and will require greater supplies of water, and liberal syringing over the foliage. Give weak, liquid *guano* once a fortnight. Inarching should now be attended to.

PELARGONIUMS will soon show signs of blooming; if they are wanted for show in May the buds should be picked off, and the plants should be rather sparingly watered. Syringing should also be dispensed with, as it is apt to injure the foliage; fumigate to destroy all green flies as soon as they make their appearance. Water occasionally with liquid guano. Keep the shoots tied out neatly, and if any run up too tall, nip off the tops.

ACHIMENES, of the different species, should be potted off, and more bulbs put in for a succession.

PANSIES, in pots, will now need a shift into a larger size. Seeds may be planted now, and those sown in January will be sufficiently large to pot off. Plants in beds, in the open air, or in frames, should be uncovered as soon as the weather becomes warm.

RANUNCULUSES may yet be planted, covering the beds with frames, to keep out frost and heavy rains.

VERBENAS may have another shift into larger pots, if large specimens are wanted. Sow seeds now for new varieties.

GLOXINIAS AND **GESNERAS** should be potted off now, and be placed in a hot bed to give them a good start.

GLADIOLUSES, for early blooming, may now be potted.

TUBEROSES may now be potted and placed in a hot bed, to push them into growth.

BEGONIAS should now be propagated from cuttings.

ORANGE AND **LEMON TREES** may now be grafted.

SALVIAS AND **SCARLET GERANIUMS** should be propagated for bedding out in summer.

CLERODENDRONS should now be started into growth, placing them in the warmest part of the house.

PETUNIAS, of choice kinds, should now be increased by cuttings. Sow seeds now for producing new varieties.

TEN WEEK STOCKS, *Phlox Drummondii*, *Brachycome*, *Nemophila*, *Didiscus cærulea*, and other choice and rare annuals, should now be sown in pans and forwarded in the hot bed.

CARNATIONS AND **PICOTÉES**, in frames, should be aired in fine weather. Seeds may be sown now, in pans, in hot beds.

HYACINTH AND **TULIP BEDS** may be partially uncovered the last of the month.

JAPAN LILIES, potted in January, will require to be shifted into larger pots this month.

GUAVAS may now be repotted and placed in a warm part of the house to give them a good start.

HARDY ROSES may be safely pruned the last of the month.

CALYSTEGIA PUBESCENS should be repotted and started into growth this month.

HARDY HERBACEOUS PLANTS should be partially uncovered as soon as all severe frosts are over.

THE MAGAZINE OF HORTICULTURE.

APRIL, 1850.

ORIGINAL COMMUNICATIONS.

ART. I. *Polmaise Method of Heating Greenhouses and Hothouses.* By R. B. LEUCHARS, Clifton Gardens, near Baltimore.

AMONG the many subjects connected with gardening, that are hobby-horse like, ridden to death by theorists, amateurs and practicals, it is somewhat astonishing that the heating of hothouses,—a subject more prolific of controversy and discussion than any other connected with exotic horticulture,—scarcely ever finds a corner in any periodical in the country. Hothouses are every where being erected; hundreds of individuals are seeking information every where, how to heat them most economically and efficiently, but not succeeding in their endeavors to obtain the requisite knowledge, they send for the tradesman in the neighborhood, who has been in the habit of doing this kind of work, who probably never saw a hothouse in his life, and knows as little about heating one properly, as he does about the practical details of Horticultural Science. However, he has fitted up stoves of various patterns,—warmed churches, public buildings, &c., and of course, he knows all about the matter; a matter which, I may add, has put the most eminent practical and scientific men to their wits' end for the last few years in England. Nevertheless he knows all about it,—or what amounts to the same thing,—he succeeds in making the employer believe so. He accordingly recommends what he knows best about, however unsuitable it may be to the place and purpose.

for which it is intended ; but his advice is taken, and the consequence is, an apparatus is fitted up as unsuitable to the house as can well be imagined, displaying as much ignorance of the principles of heating, as the most enthusiastic experimental novice could desire ; a double cost in the beginning, and often a triple cost for the rest of its existence ; and the gentleman must have more than ordinary patience, and the enthusiasm of a true lover of exotic horticulture, if he does not abandon the pursuit, as a toy far too expensive for the small amount of pleasure it affords. [Too true.—*Ed.*]

The essentials for heating churches are as different from those of hothouses, as the purposes for which these structures are applied ; and though the former are generally larger than the latter, it must be considered that the same apparatus that would warm a hothouse in a frosty night, would heat a church ten times the size, if from no other cause than the escape of heated air, and the continual radiation of heat from the glass. Again, the defects of an apparatus may be imperceptible in a public building, which, in a hothouse, would soon prove destructive to tender plants ; of this fact any person may very soon convince himself. And every gardener is aware, that plants are more susceptible than animals of the effects of heat and air, moisture and aridity : so much is this the case, that, with many kinds of plants, success in their culture, and even in keeping them alive, depends upon certain minute points of practice, which are often difficult to discover,—and when discovered, frequently as difficult at all times to pursue.

To discuss the various merits and defects of the numerous systems of heating, brought before the public of late years, would require a volume, as huge in its dimensions as Loudon's celebrated *Encyclopædia of Gardening*, and that great writer's herculean powers of compilation. My purpose, for the present, at least, is only to make a few remarks on a system which has created more sensation in Europe, than any thing which has been brought before the gardening public for the last hundred years,—which has been commented on in the English journals, nearly as much as the potato disease,—which

has been written up and written down, week after week, by men of all professions, trades and pursuits, from the peer down to the peasant, and turned half the gardeners of England into experimentalists; and which, after all, is but an old system with a new name. The cognomen which it bears, in its new form, is that which I have placed at the head of this paper.

The principle upon which this so-called new method works,—and even the system itself,—is not new. In fact, this method of heating in various modifications, dates from an earlier period than any other with which we are acquainted, and is applied in a more practical and perfect form, to the warming of many public and private buildings in this country. The very general adoption of this method, however, does not in the smallest degree, give us a warrant against its defects. It has been satisfactorily ascertained, that air heated to a temperature of three hundred degrees, becomes so deprived of its organic matter, and otherwise so changed in its properties, as to be unfit for the sustenance of either animal or vegetable life, in a state of healthy and vigorous development, for any length of time; and hence, it is obvious that the admission of a current of highly heated air into a dwelling room, or into a well glazed hothouse—if no means are taken to restore its original properties,—must in a short time become sensibly injurious to the animals and vegetables that are compelled to breath it.

The extravagant statements or rather *mis*-statements, that have frequently appeared in the *Gardeners' Chronicle* of London, respecting this mode of heating, by its editor, and others under his influence, have misled many in this country, who are totally ignorant of what the system in reality is, and have had no opportunity of learning the arguments that have been brought against it; ushered into the world under the alluring clap-trap of economy,—and lauded to the skies by its promoters, for its heating power and adaptability,—many have been deceived, by adopting the method called Polmaise, until dearly purchased experience,—the best of all teachers,—taught them the worthlessness of the system, and

showed them the reality of the broken reed upon which they had relied. Numerous instances have come under my own observation, and a large orange house in the gardens where I am this moment writing, presents a notable example of this fact ; while the plants within it, sufficiently attests its effects.

In conversing on the subject of heating, I have often been asked, what is Polmaise ? Before I say any thing more about it, therefore, it may be proper for me to describe what Polmaise really is, and wherein it differs from other systems of heating with hot air, which are more ancient than England itself, and were in use long before the christian era.

When this method was first brought before the public, under its new fangled name, I went to Polmaise to examine its working, and learn its details, with the determination of adopting it ; I found the whole apparatus exactly as follows :—

A hot air furnace, (i. e., a furnace where the air is heated in its passage over a *red-hot* plate with which the furnace is covered) was placed behind the back wall, about the centre of the house ; immediately opposite the furnace, there was an aperture in the wall, for the admission of the heated air into the house ; directly in front and above this aperture, a woollen cloth was suspended, which was kept constantly moist, by a number of woollen skeins or threads, depending from a small gutter, or narrow trough, containing water, which is fixed on a frame of wood, supporting both the gutter and the cloth, the lower edge of the latter reaching the ground : the cloth is made thicker in the middle, in order to equalize the heat, an arrangement which was indispensable ; for if the cloth was of an equal thickness all over, the centre of the house would have been heated to a scorching degree, while the ends were comparatively cold. By means of drains under the floor, the fireplace was supplied with air, from *inside* the house, part of which is used for the combustion of fuel ; the rest passes over the heated plate, and enters the house through the aperture above mentioned.

Such then, is the *real system of Polmaise heating*, as originally applied at Polmaise, and which sprung out of the fol-

lowing circumstance :—A church in the neighborhood of Polmaise, (a small country seat, near Sterling, in Scotland,) was heated by a hot air furnace, similar to those used in warming dwellinghouses, &c., in this country. The gardener examined it, and thought it a good plan to warm his hothouses; accordingly he applied something of the kind to heat his vinery, arranged as I have described above. The thing was entirely new to the worthy gardener, as well as to his employer, Mr. Murray, who sent an account of it to Dr. Lindley, the editor of the *Gardeners' Chronicle*. The Dr. extolled the system to the skies, and induced various individuals to adopt it, and those who took the unpardonable liberty of judging its merits, from experience, he straightway denounced as interested or dishonest men. The gardening community arose in arms, and waged war against their theoretical foes, and not one single gardener of note, in England, was found to support the sinking reputation of Polmaise. At last the so-called originators were confounded at the buzz they had excited in the practical hive. No controversy (connected with gardening) was ever carried on with so much virulence, and no system has been so severely tested to prove its merits and defects. Gardeners, amateurs and all, entered the arena of experiment, discussion and controversy; still its promoters would not flinch from their original position. The columns of the *Chronicle* were under Dr. Lindley's command, and right or wrong, he would support it, without however adducing one single argument in its favor,—except ripe grapes in September,—a period, forsooth, when grapes would ripen without artificial heat at all. Yet its cheapness and simplicity were its ignis fatuus of attraction, and for several successive winters many, blinded by the misrepresentations of its advocates, went to work, Polmaising their greenhouses, &c., tearing down their furnaces and flues, and converting them into hot air stoves, and drains, and other appurtenances of Polmaise. Yet, after a short trial, and a good deal of plant killing, they one and all abandoned the system with disgust. Now it appears very strange, that while Dr. Lindley was advocating the merits of Polmaise, with the whole power of

his pen and influence, he never had one erected at the Horticultural Societies' garden, where he had unlimited control ; Something of the kind, I believe was tried in a small pit, but the results were not given to the public, and those who erected them by his recommendation, were obliged to acknowledge them unqualified failures.

Polmaise has been improved and modified in many ways since its introduction under that name. It will be seen that the only difference between it and the ordinary hot air stoves, consists in the air being supplied from the interior of the house, while in the stoves generally used, the air to be heated, is drawn from the external atmosphere. Now, the air, passing over a highly heated surface and entering a house, of any kind, at a high temperature, is bad enough, but the same volume of air, heated over and over again, is a hundred times worse, so that the supposed advantage of Polmaise, is in reality a defect, and one too, of sufficient importance to condemn its adoption ; for no water-tank contrivance has yet had the effect of restoring the air thus heated, to its original purity and healthfulness. And hence, the more recent modifiers of Polmaise, have thrown this advantage aside and reverted to the common method of hot air heating, which, applied to hothouses, is quite as expensive as smoke flues in the beginning, and triply expensive in the end, besides being far more troublesome to work. The late Mr. Meek, of Holmsdale,—who, upon the death of Mr. Murray, of Polmaise, took up his mantle and a double portion of his spirit,—contrived a modification of the system, perhaps more scientific and perfect in its arrangements than any of the others, but not so simple as some of them. For instance, Lewis or Kendall's, a plan of which is given in Allen's *Treatise on the Vine*. And most assuredly, a more bungling affair for heating a hothouse,—and one displaying more ignorance of the principles by which air is heated and diffused—never was erected. When applied in conjunction with an apparatus already heating a house, it may prove of some considerable service ; in fact, the conduction of *all* the heat generated by the combustion of fuel into the house, without loss or detention, is

an important point in any heating apparatus, and ought if possible to be secured.

I will just advert to another argument of the promoters of Polmaise, and this is considered by them the most important of all, viz.: its capability of creating a motion in the atmosphere of the house. Any system of heating by hot air, possesses *theoretically* some advantages, over other methods, where the surface of radiation is larger. Strictly examining the matter however, we find that this theory, however plausible it may appear, has scarcely a practical foundation. As far as regards its influence and utility in a hothouse, we know very well that currents are created by the rarefaction of air, or the expansion of its particles by heat. But, however beneficial a motion in the atmosphere may be, and I will not dispute the fact, we know also, and that too by experience, that the more we increase the unlimited action of this law in the atmosphere of a hothouse, the more injurious it becomes to vegetable and animal life. If it be desirable to create a torrid tornado in a hothouse, the apertures of ingress must admit a current of air heated to a degree that would quickly contaminate the whole volume, and render it incapable of sustaining either animal or vegetable existence.

The motion given to the atmosphere of a hothouse, by a current of heated air, depends upon the temperature to which it is heated, and not upon the quantity or volume of air passing over the heating body. The motion created, will, therefore be greater, in proportion as the aperture is diminished, and the temperature of the current increased. The equalization of the internal volume, however, will not be in proportion to the heat of the current with the latter, but to the internal and external surfaces of radiation, so that a current of highly heated air, entering a house, will not equalize the temperature of the internal atmosphere; in fact, some parts of it will not be influenced by the current at all; this I have proved by actual experiment. But, strictly speaking, the atmosphere of a house artificially heated, is always in motion; it must necessarily be so, by virtue of the law already referred to; and we find on examination that it is continually

in a state of motion. The motion produced by a large surface of radiation, by hot water pipes, or common flues, may be imperceptible to the casual observer, but it is not the less real; and as the amount of heat diffused is just equal to the amount carried off by radiation from the glass, (providing the internal atmosphere be kept at a given temperature,) so must this imperceptible motion continue as long as any difference exists betwixt the internal and external atmospheres.

There have some other, though less important, arguments been used to support the sinking reputation of Polmaise for the heating of plant houses; and as drowning men eagerly catch at straws, it is not surprising that its theoretical advocates should clutch at some vague and shadowy principle of science, just to keep the subject which they have agitated, before the public, and probably to gain themselves a little notoriety. The learned editor who threw down the gauntlet to the opposers of Polmaise, has more than once had his theoretical whimsies exploded by the stubborn facts of practical experience; and, as many persons in this country eagerly follow any crotchety notion they read in the *Gardeners' Chronicle*, taking the reputation of its editor as a guarantee of its truth, I purpose to devote a few papers to this subject, drawn from the best of all sources.—practical experience.

Clifton Gardens, near Baltimore, Feb., 1850.

(To be continued.)

ART. II. *Pomological Notices; or Notices respecting new and superior Fruits, worthy of general cultivation.* By the EDITOR.

OWING to the unpropitious season for fruit last year, we are not enabled to render our pomological notices as interesting as usual; with the exception of the Beurré Langelier, and two or three others, scarcely a new Pear fruited last year, in the numerous amateur and nursery collections in the

neighborhood of Boston. The prospect now is, that the season of 1850, will be as noted for its abundant crop, as that of 1849 was for its scarcity; and the information our pomological friends are deprived of this year, they must hope to be supplied with in the next: we can promise them, should no untoward circumstances occur, a fund of information upon a great number of new, as well as older, varieties, which will fruit in our collection this year.

PEARS.

HEGERMAN.—This is the name given to a new seedling pear, specimens of which were exhibited at the North American Pomological Convention, at Syracuse, N. Y., last September, and briefly mentioned, in our notice of the report of that convention, in our last number, (p. 112.) Subsequently, we were favored with a box of the pears, from the original tree, by C. R. Lincoln, Esq., Editor of the *Flushing Journal*, who informs us it was produced by Mr. Peter Nortrand, of Flushing, and is supposed to be "a hybrid, between the Seckel and Virgalieu," (White Doyenné.) It greatly resembles the Buffum, so much so, that when we saw it at Syracuse, we thought it identical; but upon a trial of the several specimens sent us, we came to the conclusion, that though very much like the Buffum, it was quite distinct. We made a drawing and description, which we shall give in a future number. In size it is rather below medium; form, obovate, regular, with a dull, yellow skin, beautifully shaded with red, and with a high-flavored, sugary, and melting flesh; stem short. Ripe the early part of September.

CANANDAIGUA.—Under the name of Catherine pear, a very handsome, and excellent variety was exhibited at the Congress of Fruit Growers, in New York, which we noticed at p. 36. Since then, it has been fully described and figured, by Mr. Barry, in the *Genesee Farmer*, under the name of Canandaigua, given to it by the committee on seedling fruits. Mr. Barry states, that its origin is similar to that of the Swan's Orange, and involved in the same obscurity. All that is known of it is, that it came from Connecticut, as

long ago as 1806, when scions were brought from that State, by Judge Atwater, of Canandaigua. Size medium; form irregular pyramidal; skin fair, pale yellow; stem rather long; flesh white, fine, melting and buttery, saccharine, high flavored, and excellent. Ripe in September.

TEA.—Under this name a very handsome pear was exhibited at New York, from New Haven, Conn. It so much resembled the White Doyenné, both in taste and appearance, that the members of the Congress who tasted it, pronounced it that fine old pear. But, from what we can learn from our correspondent, S. D. Pardee, Esq., it would seem, however great the similarity of the two, to be quite distinct; as the White Doyenné cracks, and is worthless, where the trees are growing in the same garden as the Tea, which invariably produces fair and excellent fruit. Mr. Pardee has kindly promised to look up the history of the tree, and ascertain, if possible, its origin. Size, medium; form, roundish obovate; skin, yellow, tinted with red; flesh, melting, juicy rich, sugary, high flavored, and excellent. Ripe, the last of September.

The following account of several varieties of pears, some of them quite new, we find in the *Gardener's Chronicle*, compiled by Mr. R. Thompson, from the "Bulletin de la Société d'Horticultural Pratique, du Rhone, for 1849." Several of the varieties we have already noticed, or briefly described; but as showing the state of Pomological information, even in France, we copy it entire, adding a few notes, in course:—

This contains descriptions of many old and new sorts presented for exhibition; and as these descriptions appear to have been carefully made, by M. C. Fortuné Willermoz, the following extracts will probably be acceptable to those interested in the cultivation of pears:

ANANAS.—Middle-sized, short-pyriform, surface somewhat uneven; stalk thick; about half an inch in length, oblique; skin smooth, soft, of a golden yellow, with reddish dots; flesh pale yellow, very fine, melting, full of sugary juice, perfumed. Season, end of September, and beginning of Octo-

ber. This was also exhibited under the name of Bergamotte Cadette.

[This is, undoubtedly, identical with Henry the IV, which is received from France, under the name of Ananas.]—*Ed.*

ANGORA.—“Syn. Belle Angevine, Faux Bolivar, Royal d’Angleterre, Comtesse ou Beauté de Tervueren, Grosse de Bruxelles, Duchesse de Berri d’Hiver, Très Grosse de Bruxelles et Lyons.”—[The description appears to apply to the Uvedale’s St. Germain. The Angora Pear, said to have been brought from the Levant, by Tournefort, has proved to be the Catillac.]

BELLE EPINE DUMAS.—Syn. Epine de Rochoir, Beurré Rochoir, erroneously, at Lyons. This must not be confounded with the Epine Dumas, of which the Duc de Bordeaux is a syn.—Fruit very large, pyriform, somewhat turbinate; skin smooth and fine, golden yellow on the one side, and of a vermilion color on the other, dotted with reddish brown, russeted about the footstalk; the latter is about an inch in length, bent, implanted in a small irregular cavity; eye small, in a shallow, evenly-formed cavity; flesh pale citron, very fine, buttery, containing a very agreeable, sugared juice. Season, commencement of October. The tree requires a rich, substantial soil.

[This description answers exactly for the Epine Dumas of our collections, and we have no doubt of its being the same.]—*Ed.*

BERGAMOTTE EDOUARD SAGERET.—Syn. Poire Sageret, No. 2, Poire Edouard.—Fruit middle-size, pyriform; flesh coarse, rather gritty round the core, tender, but not melting, sweet and perfumed. Season, end of August.

BERGAMOTTE LUCRATIVE.—(not Buerré Lucratif.) Syn. Bergamotte Flèvé.—Fruit very large, roundish, flattened. Classed among those of first-rate quality. Ripe in September.

[No doubt the Belle Lucrative: trees received by us, from M. Jamin, have so proved.]—*Ed.*

BERGAMOTTE SAGERET.—Syn. Poire Sageret, No. 1.—Fruit middle-sized, roundish. Flesh white, very fine, melting,

sugary. Ripens in November and December, and when grown on a standard, will keep even till February or March.

BEURRE' GOUBAULT.—(This must not be confounded with Doyenné Goubault.)—Fruit middle-sized, almost round; skin pale green, passing to a yellowish green, sprinkled with brown dots. Stalk slender, about half an inch in length. Eye large, open, slightly sunk. Flesh fine, half melting, and buttery, perfumed, gritty near the core. Season, beginning of September.

BEURRE' GRIS D'HIVER NOUVEAU.—(Bavay.)—Syn. Beurré Gris Supérieur, Beurré de Luçon, Beurré Gris d'Hiver, of Bivort, St. Michael d'Hiver.—Fruit very large, oval, flat at the ends. Stalk short, about four-tenths of an inch in length, thick; eye small, slightly sunk in a small, regularly formed hollow; skin shining, greenish-yellow, tinged with red next the sun. Flesh white, firm, juicy, and of a very agreeable flavor; it is sometimes a little gritty, when the tree is planted in a strong soil. Season, December and January. The tree is vigorous and extremely fertile. We think this variety ought to be classed among the Doyennés, rather than among the Beurrés.

BEURRE' LEFÈVRE.—Syn. Beurré de Mortefontaine.—Fruit very large; color, a mixture of brown, green, and red; but its quality does not correspond with its beauty, and it soon becomes mealy. It ripens in October.

BEURRE' MOIRET.—Syn. Beurré Moiré.—Fruit large, pyramidal, yellowish-green, a little tinged with red, next the sun, and sprinkled with brown dots. Stalk about an inch in length, of medium thickness. Eye slightly sunk. We have not had an opportunity of examining its flesh, but we have been assured, that it is of first-rate quality. Ripens in the end of September. The tree is vigorous and fertile.

[Has not come up to its foreign reputation with us.]—*Ed.*

BEURRE' QUÉTELET.—Fruit middle-sized, broadest transversely. Stalk, rather more than half an inch in length, thick, fleshy, deep brown, implanted in a shallow, regular cavity. Eye, middle-sized, irregular, placed in an evenly-formed, shallow basin. The flesh is said to be melting, buttery, and of first-rate quality, ripening in the end of October.

BEURRE' ST. LOUIS.—This variety has been introduced to Lyons, by Prof. Jourdan, a very eminent pomologist. It bears considerable resemblance to the *Délices d'Hardenpont*.

BEURRE' ST. NICOLAS.—Fruit, large, obtusely pyramidal. Stalk, thick, fleshy, curved, about eight-tenths of an inch in length; eye, very large, placed in a shallow cavity. Skin, smooth, shining, golden-yellow, dotted with brown, red next the sun. Flesh, pale citron, fine, very melting, with abundance of sugary juice, agreeably perfumed. This beautiful and excellent pear ripens at the end of September.

BE'ZI DES VE'TE'RANS.—(Van Mons.)—Fruit, large, turbinate, or oval. Stalk, rather more than an inch in length, yellow, very slender, oblique. Eye open, in a shallow cavity; segments of the calyx erect. Skin greenish yellow, with small russet patches, tinged and streaked with light red next the sun. Flesh pale citron, tolerably fine, melting, containing abundance of sugary juice, very agreeably perfumed. Ripe in October and November, and will even keep later.

BEURRE' DES CHARNEUSES.—Syn. *Fondante des Charneuses*, by corruption, *Beurré*, or *Fondante des Carmes*.—Fruit large, turbinate, rounded at the eye, diminishing, and slightly bent towards the stalk; the latter is about three quarters of an inch in length, thick, oblique, yellow. Skin greenish yellow, sprinkled with numerous brown dots. Flesh pale citron, traversed by some small greenish filaments, melting, buttery, with abundant juice, sweet, and very agreeably perfumed.

BONNE D'EZE'E, not *Bonne des Zees*.—Syn. *Belle et Bonne de Zee* (d'Albret.)—Fruit very handsome, oblong, obtuse. Stalk three-fourths of an inch in length, very thick, yellowish brown with grey dots. Eye large, placed in a regularly formed, wide, but shallow depression. Skin of a fine yellow color, relieved with brown and green dots. Flesh white, tolerably fine, when cut permitting the escape of a very abundant, sugary juice. [According to M. Jamin, it ripens in September.]

[The *Belle et Bonne de Zee* has proved to be identical with the *Belle Epine Dumas* in our collection, received from

Mr. Rivers. Bonne des Zees, received from M. Jamin and Mr. Rivers, is, without doubt, the same as this: the description is precisely like it.—*Ed.*]

CATINKA.—(Esperin.)—Fruit middle-sized or large, irregularly oval, turbinate, tapering towards the stalk, which is slender, an inch and a half in length, reddish brown, with a small, fleshy projection on one side, at its insertion. Eye regularly formed; segments of the calyx short. Skin light green, changing to greenish yellow, at the maturity of the fruit, sprinkled with numerous small brown dots, and washed with carmine red next the sun. Flesh white, tolerably fine, melting, and full of rich, sugary juice, with a Crassane flavor. This handsome and excellent pear remains for six weeks, fit for use in November and December. The tree is fertile and very vigorous, even on the Quince.

COLMAR D'AREMBERG.—Fruit large, or very large, turbinate, flat at the eye, diminishing considerably towards the stalk, which is short, thick, oblique, deeply inserted in a cavity surrounded with projections. Eye very small in comparison with the size of the fruit, placed in a deep cavity. Skin green, changing to golden yellow, at the maturity of the fruit, relieved with numerous russet specks and some greenish dots. Flesh white, tolerably fine, melting, with a very abundant sugary juice, delicately and agreeably perfumed. Ripe in November and December; it is necessary to seize the moment of its maturity; if taken too soon, it is rather sharp,—too late, it is mealy and dry. One of the fruits exhibited was upwards of fifteen inches in circumference.

APPLES

WAGENER APPLE.—This new apple, which has been highly extolled for its excellence, is described, and beautifully figured in the *Transactions* of the New York State Agricultural Society, for 1848. It originated in Penn Yan, Yates Co., N. Y., from seed carried there from Dutchess county, as long ago as 1791. The parent tree is yet alive, and produces “annually an abundant yield of beautiful and

delicious fruit." Size medium; form roundish; color deep glossy red, striped with splashes of a lighter hue; flesh yellowish white, fine, crisp, juicy, vinous, subacid, sprightly, and delicious. Ripe from October to May.

KINGSLEY.—A new variety described and figured in the *Report* of the North American Pomological Convention, at Syracuse, by Dr. H. Wendell, of Albany. It is a fine, late keeping apple, "as fresh and free from defect on the 10th of June, as when taken from the tree." It originated on the farm of Mr. Kingsley, Pittsford, Monroe county, N. Y., and the original tree produced thirty bushels of fruit in 1848. Size medium; form nearly globular; color dark yellow, with pink stripes and splashes, which diverge in every direction from the stem end; Flesh fine, melting, with a pleasant subacid, rich, and abundant juice. Ripe from November to July.

SUMMER BELLFLOWER.—A seedling produced by Mr. J. R. Comstock, of Washington, Dutchess county, N. Y., who informs us that it was raised from seeds of the Esopus Spitzenberg. It first fruited about five years ago. The tree is a vigorous grower, and has borne a good crop every year. In general form it nearly resembles the Williams' but the skin is of a fine, clear yellow; flesh white, fine, and tender, with rich subacid, high-flavored, and abundant juice. Ripe in August.

BEEF-STEAK.—A very superior autumn apple was sent to us, in 1848, under this name, which proved such a *heartly* mouthful, that we have not ventured to suggest an alteration of its "inelegant" title, as it may be considered by some pomologists. It originated in Wilmington, Mass., very near the spot where the Baldwin sprung up from seed; and is as superior as a fall apple, as the former is as a winter one. In size it is about medium; of roundish form, with a yellow skin, nearly, or quite covered with brilliant red, in stripes and splashes; flesh yellowish, fine, crisp, and tender; with a peculiarly high-flavored, rich, and abundant juice. Ripe in October and November.

ART. III. *How to Prune the Currant.* By ROBERT THOMPSON, Superintendent of the Orchard and Kitchen Garden Department of the London Horticultural Society.

In our last number, we gave Mr. Thompson's remarks on the pruning of the gooseberry. We now have the pleasure of presenting another excellent article by him, detailing, in the same clear and practical manner, the proper mode of pruning the currant.

In one of our earlier volumes, (VIII. p. 324,) we gave a long article upon the cultivation of the currant, in which we particularly alluded to the proper system of pruning, and embraced the opportunity to urge upon cultivators the great importance of more care in what is generally considered a very simple process,—namely, the pruning of the plants. There can be very little doubt, that the inferior quality of nearly all the currants exposed for sale, in our markets, is mainly owing to a want of a knowledge of the proper mode of pruning the bushes.

Indeed, it is rare to see a plantation of currants judiciously managed. In the place of small, compact, stocky plants, kept within a moderate compass, by yearly shortening of the shoots and renewal of the wood, we too often find overgrown, straggling bushes, with numerous branches of old wood, three or four feet long, not larger than a pipe-stem, bare of fruit-spurs for more than two-thirds their length, and so weak as to be incapable of producing strong annual shoots, so necessary to the production of fine fruit. When once the plants become so degenerated, they can only be brought back by heading them in very short, even to the loss of the crop, for one season, so as to bring up a growth of strong new wood; afterwards, the pruning may be performed as Mr. Thompson directs.

We are gratified to state, that since the publication of the article on the gooseberry, in our last, the Massachusetts Horticultural Society has decided to include among its prospective premiums, for new seedling fruits, one for the goose-

berry and one for the currant, of the respective amounts of **TWENTY FIVE DOLLARS** each, as will be seen by the report in another page. These prizes, we doubt not, will be the means of inducing amateur cultivators to try experiments, with a view to the growth of superior varieties; and we may anticipate the production of new seedlings more valuable than any we now possess.

In the article before alluded to, we urged upon cultivators more attention to the production of seedling currants, confident that, with the improvement which has already been made in the strawberry, and other small fruits, there could be no reason why the same success should not follow similar endeavors with the currant; and we trust, as the field is open, that our own cultivators may be able to achieve that which has been so long a desideratum, with all lovers of this valuable fruit.—*Ed.*

THE CURRANT TREE.—Under every mode of training, the red Currant, and also the white, require to be regularly pruned every year. In rearing the young plants, the first thing to be aimed at is a clear stem, about five inches in length, free from suckers. In preparing the cutting, care should be taken to remove all the buds on the portion intended to be inserted in the ground, otherwise many of them would form suckers, injurious to the plants, and troublesome to displace effectually. In some cases, cuttings can be obtained, long enough to afford at once the proper length of stem; but when such cannot be had, when the cutting is altogether too short, or proves so after the necessary removal of the imperfectly formed wood at top, then three buds above the surface of the ground will be sufficient. These will generally produce three shoots, all of which may be allowed to grow during the first summer after the cutting has been planted, in order to assist in forming roots. Supposing the plant is intended for the open ground, and that it is to be trained in the usual way, open in the centre; then, in autumn, after the leaves have fallen, two out of the three shoots which the plant has made should be cut off, and the third,

selected as the most eligible for a stem, should be shortened, so that the third bud below the cut may be five inches above the ground. Three shoots will generally be produced the following summer. In autumn the plants will require to be planted out where they are to remain, and at the same time the shoots should be cut back to about four inches, taking care to cut above buds pointing outwards. We have now a stem five inches high, and three branches diverging from it, each of them shortened to about four inches. Two shoots should be encouraged from each of these three, so that in autumn the plant will have six shoots, corresponding with the ultimate number of branches necessary. All other shoots must be spurred to within an inch of their bases. The six shoots selected for leaders should be cut back so as to leave them from four to six inches long; and, like those of the former season, they should be cut to buds pointing outwards. At every future winter pruning the terminal shoots of the six branches should be shortened to between four and six inches long, according to their strength. When the branches nearly attain the intended height, the terminals may be shortened to two or three buds. With regard to the lateral shoots, they must



Fig. 8. *The Currant Tree.*

a a a, Wood buds.

b b, Fruit buds.

c c c, Clusters termed fruit spurs; they consist chiefly of fruit buds, but amongst them, there are, generally, some wood buds which produce small shoots.

all be cut to within an inch of the old wood at every winter pruning.

Some recommend summer pruning. In moderation it may be advantageously performed. When the plants are luxuriant, and shoots are likely to overcrowd the centre, the tops of such shoots may be cut off in June. But it must be observed that if no shoots were allowed to grow excepting those necessary to be retained at the winter pruning, the plants would, in consequence, be less vigorous in the following season; for the more leaves the more roots, and the greater the quantity of the latter the more abundant will be the supply of nourishment.

Instead of the open bush-form, Currants may be grown with a single upright stem; and in this way they occupy very little space, and yet produce good bunches of fruit, which are not liable to be spoiled by wet.

When Currants are intended to be trained against a wall, they should be planted three feet apart, and a strong shoot trained upright for a stem. This should be shortened to six inches, and the two uppermost shoots trained horizontally right and left. From these, four upright shoots should be trained, so that the distance between them may be nine inches. In order that these may not run up without being sufficiently furnished with fruit spurs, they should be shortened to six inches, and every year, at the winter pruning, the upright terminal shoots of the branches should be shortened according to their strength, shorter if weak, and if strong they should not be left longer than is consistent with their breaking into spurs not more than six inches apart. The laterals may have their points cut off, annually, in June, and cut nearly close to the old wood at every winter pruning. Various other modes of training may be adopted, but the same principles of pruning are generally applicable, namely, the shortening of the leading shoots and spurring in the laterals as above directed. The red and white Currants may be grafted on each other with good effect, as regards contrast of colors.

ART IV. *Pomological Gossip.*

THE THREE BEST VARIETIES OF STRAWBERRIES.—It will be recollected, by many of our readers, especially those interested in the cultivation of fine strawberries, that we stated some years ago, (1845, vol. XI. p. 294,) that of all the new varieties which had been produced up to that period, we had found “only *four* which could be commended for general cultivation.” These were the Early Virginia, Hovey’s Seedling, Boston Pine, and English Wood. This statement greatly surprised our old correspondent and champion of the strawberry culture, at the West, Mr. Longworth, who was induced to ask, “What will English cultivators, who have raised so many new seedlings, say to this?” Again, in our volume for 1848, (XIV., p. 364,) when noticing the exhibition of a great number of kinds, at Rochester, N. Y., we remarked, that in the vicinity of Boston “all of them had been discarded as *worthless*, except the Early Virginia, (called the Large Early Scarlet,) Hovey’s Seedling, and Boston Pine.”

We were not aware that Mr. Longworth had noticed the latter statement, until a few days ago, in looking over the *Transactions* of the New York State Agricultural Society, for 1848, we observed a long article on the strawberry from his pen, from which we copy the following:—

“I discover, from Hovey’s Magazine, that they have but three varieties of strawberries, in Boston, worthy of cultivation: the Early Scarlet, Boston Pine, and Hoveys’ Seedling. The Early Scarlet we do not deem worthy of cultivation. We have staminate that are better bearers,—the fruit larger, and equal in quality to the Early Scarlet. The Boston Pine is also staminate, and does not, with ordinary cultivation, with us, average one fourth of a crop of perfect fruit. Hovey’s Seedling bears larger fruit than any we cultivate.”

Our only object in noticing this, is to show Mr. Longworth, that we did not make the statements above, without due thought and deliberation, after *some* little experience in

the culture of the strawberry; for, he has probably seen, although the official report has not been published, that the Congress of Fruit Growers, at New York, out of all the great number of strawberries which had been fully proved, up to 1849, only recommended **THREE** for general cultivation. These were the **EARLY VIRGINIA**, **BOSTON PINE**, and **HOVEY'S SEEDLING**;—the identical sorts **WE** recommended five years previous, and for doing which, we were accused by Mr. Longworth and other cultivators, of a conceitedness and partiality for our own seedlings, and a disparagement of those produced by other cultivators. After the **UNANIMOUS** vote of an assemblage of pomologists, from almost every state in the Union, and the Canadas, establishing the value and superiority of the very three varieties we so long ago recommended, we trust our western friends, as well as others, nearer home, will admit that their judgment is worth something, and that we had no other motive in asserting the excellence of our seedlings, but the intrinsic merits which characterize the two varieties.

THE CULTURE OF THE PLUM, AND THE DESTRUCTION OF THE CURCULIO.—In our last, we copied some valuable information on the plum, from the *Report* of the North American Pomological Convention. The cultivation of the plum is yearly receiving more attention, and could the ravages of the Curculio be easily prevented, the crop would soon be as abundant as that of other fruits. It is gratifying to know, that more attention is being directed to the habits of the Curculio, and, we do not doubt, some more effective mode, than any we now know, will be discovered, by which their destructiveness will be greatly lessened. It cannot be denied, however, that thus far, of all the plans suggested for limiting their ravages, not one can claim so much merit as that of *shaking them from the trees daily*, during the whole period, when they make their attacks upon the fruit. All the barbarous plans of disfiguring a garden, by paving it with bricks or stones,—making it a pig pen, or henery,—saturating the soil with guano or salt, and numberless other modes, too numerous to mention, suggested by those who are novices

in Horticulture, are of little or no value, compared with that of shaking the trees, and catching the "rascals." The only thing is to know the exact period when to commence and leave off the operation alluded to, so as to save as much labor as possible; on this point we are pleased to state, that an amateur, who spent a greater part of the last summer in ascertaining the habits of the curculio, has promised us the results of his investigations, which we hope to give in our May number.

To cultivators who have trees just coming into bearing, or new varieties, of which they wish to procure a few specimens of fruit, when there is not sufficient to take the trouble to shake the trees, the plan adopted by Mr. Wilson, of Essex county, as detailed by him in the *Transactions* of the Essex Agricultural Society, seems to us most excellent, and well worthy of recommendation. It is as follows:—

"I will here mention a successful experiment for the protection of the plum against the curculio. Last year I made two bags of old thin muslin, and drew them over two limbs, about the time the fruit set. Within each of these bags I saved a few beautiful plums, and not a plum did I save on any other part of the tree. Taking courage at this good success, I bought, last spring, a few yards of bonnet lining which I made into bags according to the size of the limbs I wished to cover. These I drew on the limbs of several trees, some when the plums had set, and others when they were in the blow; for I found the enemy had made their appearance while the trees were in bloom. Under each of these bags I saved plums, apricots, and nectarines, upon limbs of twelve different trees; and these were the only ones I saved this year. The first of August I removed the bags, the curculio having disappeared. Some may think this would be too expensive, but I think not. The muslin would last many years; and by training the trees, or the branches in the right form, they might easily be covered, to the profit of the fruit-grower. Be this as it may, I have found it of great use to me, as I have bought a variety of choice plum trees, from

which I did not like to use buds and grafts, until I had proved the fruit. This I have accomplished. One small branch, covered by a bag, measuring six and a half by nine inches, contained twenty-one beautiful plums, hanging in one solid cluster, causing the little limb to bend so much beneath its weight, as to require a prop to support it. Upon another tree, (the Moorpuick Apricot,) I saved eight Apricots, under a very small bag. I am training some apricots and other trees in the form of a fan, to make them the more convenient to be covered with the muslin."

We shall try this mode ourselves the coming season.

ART. V. *Heliotrope Souvenir de Liege, and Descriptions of Six new Cinerarias.* By JOHN CADNESS, Commercial Gardener, Flushing, L. I.

HELIOTROPE SOUVENIR DE LIEGE.—This new plant has now flowered in the Collection of Parsons & Co., Flushing, N. Y., by whom it was imported the past summer, along with two other new varieties, Grissau and Triomphe de Liege: these last have not yet flowered.

Souvenir de Liege was sent us as a yellow flowered variety; it is a plant of stronger habit, and more erect growth than the well known Var. *intermedia*, is more disposed to branch from the main stem, each branch being terminated by a truss of bloom; leaves larger, deeply veined, and of a yellowish green color; the truss is not much larger, but broader and better formed, stands well up, not so triangular, and the angles very little reflexed, which gives the flower a better appearance; the flower is much larger, the tube of the corolla more open and campanulate. The centre of the flower is bright yellow, shaded with very pale purple, which, however, changes nearly to white; it also promises fair to be a free bloomer; it cannot, perhaps, properly, be called yellow, although yellow is the ground color, and it is very distinct and bright, and in this respect, we cannot say, that it has come up to our ex-

pectations of its merits : however, under the circumstances, it is somewhat difficult to speak with certainty, the plant having been so recently introduced, and also having been a good deal forced, for the purposes of propagation, &c., the colors may not be so good as they ultimately may be ; the form and size of the individual flower, and of the truss, is, decidedly, an improvement, and, from its habits, should it not prove more valuable for house purposes than intermedia, it will certainly be most useful for bedding, in connection with it, and Voltairianum ; its fragrance is much the same as intermedia.

DESCRIPTIONS OF SIX NEW CINERARIAS.

The Cineraria is now becoming a very popular plant in England, and a great many new sorts have made their appearance within the last few years, and if the price is any index of the value of some of them, they should be very good, for we see several advertised to be sent out this season, at half a guinea each, a price quite unusual for a Cineraria. The past summer, Messrs. Parsons, & Co., received six of the best sorts, then out, in order to see what improvement had been effected in them, all of which have been in bloom for a length of time this winter, and they are all very good, and have fully equalled our expectations ; I thought, therefore, a description of them might be interesting to your readers.

CINERARIA ATILLA.—Petal, white, tipped with rich rosy purple, very good habit, and profuse bloomer, and showy.

CINERARIA SPECIOSA.—Fine crimson, something after the manner of the old Waterhousiana, but richer color, larger and better formed flower, and much better habit.

CINERARIA JOAN OF ARC.—This is a most beautiful thing, and very gay ; petal pure white, margined and tipped with bright blue ; good form ; very small disc, and the flower slightly cupped ; color, very bright ; good habit.

CINERARIA APOLLO.—Rich, deep, indigo blue ; good form ; very dwarf habit, and great bloomer ; the color very rich and velvety.

CINERARIA RESPLENDENS.—This is one of the very finest

self-colored ones out, of a rich, bright crimson color; large, well formed flower; very small disc; fine, robust habit, with large, and well arranged truss; color most brilliant.

CINERARIA BEAUTY OF NEWINGTON.—This is the best of its class; the flower is of full size, and fine form; dark disc, and very small, surrounded with white petals deeply margined with crimson, terminating at the points with crimson purple; the flower slightly cupped, good habit, and color very rich and velvety.

These are all herbaceous sorts, and the four last named are exceedingly good, and highly deserving of cultivation; nothing can exceed the richness and brilliancy of their colors. Beauty of Newington is a great favorite in England, and is considered the best of its class. Resplendens is also very fine, and one I am particularly pleased with; the form of the flower is first rate, and the velvety richness and depth of its color cannot be beaten. I think them very superior, and far before all the sorts I have yet seen in cultivation. Their habit has been much improved, as well as their flowers, and they have lost much of that coarseness in foliage; the truss better formed; their flower stems, strong and erect, and without that loose, straggling habit.

The Cineraria makes a most beautiful exhibition plant, as well as being one of the most useful plants we have for the winter and spring, and should, I think, be more generally cultivated. Their management is simple; they bloom very abundantly, and with a little management, a succession of flowers may be kept up from December until June.

Flushing, L. I., Feb. 1850.

ART. VI. *Some additional Remarks on Vaccinium Vitis-Idæa.* By JOHN LEWIS RUSSELL, Professor of Botany, &c., to the Massachusetts Horticultural Society.

In a valuable communication from the pen of General H. A. S. Dearborn, which appeared in the August number of

this Magazine, for 1849, it is remarked, that this rare plant has been detected "on a space of ground about thirty feet long and twenty wide, on the summit of a hill," which was covered "with it," and this spring, the whole area was whitened with its delicate blossoms." Surprised, as you may imagine, to learn that so remarkable a plant, as is the true Cow-BERRY, should have been growing so near, and unnoticed hitherto, I was led to repair to the spot indicated, and by so doing, found, what I thought would be very possible, that quite another, and by no means uncommon plant, had been mistaken for it. On casual inspection, there is a resemblance; and several instances of such a mistake have occurred to my knowledge, since the publication of my communication in the number for July, 1849, of this Magazine.

I think, Mr. Editor, that you yourself spoke to me of a gentleman, who was, in like manner, assured of a locality well known to him, where the genuine *Vaccinium Vitis-Idæa* grew, and of which, under the name of *Mountain Cranberry*, he supposed that he could produce specimens to your satisfaction, but which proved to be the common Bear-berry, (*ARCTOSTA'PHYLOS U'VA-U'RSI*;) the identical plant to which General Dearborn alludes, as growing also in the Forest Hills Cemetery, Roxbury, and which he evidently thought to be the Cow-BERRY. A friend of mine who is not unfamiliar with the forms of our native plants, was confident that he had seen plenty of *VACCINIUM VITIS-IDÆA*, near some town in Middlesex county, which he had visited during the past summer, but which, he afterwards became satisfied, was no other than the Bear-berry. And still another instance, of friends, who, I think, must have mistaken the common Cranberry (*VACCINIUM MACROCARPON* *Ait.*,) which, growing as it sometimes does, by the sides of roads on the banks of ditches that are nearly dry in summer, was supposed to be the plant under consideration.

It must be understood then, that it is the *ARCTOSTA'PHYLOS, U'VA-U'RSI*, or Bear-berry, that is the plant alluded to, in General Dearborn's article, of which I have spoken, and may be seen in great luxuriance on the spot, which he has indi-

cated. I saw there, stems of it trailing over the ground, measuring more than three feet in length, and covered with dark red berries, which, in themselves, are conspicuous objects at a late season of the year; succeeding the showy flowers, which are borne in short clusters on the ends of the branches. The corolla of each flower is of an ovate or urceolate shape, white, with a reddish tinge, and transparent at the base, but contracted at the mouth. The blossoms appear in the latter part of May, and are among the elegant productions of our northern spring. I remember being very much impressed by their beauty when I once found a large bed of them. Large patches of the plant may be frequently seen among the Pitch Pine woods, on the sandy plains, in the vicinity of Lowell, where, as elsewhere, indeed, it sustains some reputation for its medicinal virtues. In a pleasant spot, frequented for its natural beauties and seclusion, by those who love to ramble among the woods and fields of Hingham, it has been observed: it flourishes on the light soils near Barnstable, as I have evidence from specimens sent from that town, and now lying before me; and at Nantucket I saw it in vast abundance, last September, covering the prairie-like plains of that island, especially towards Squam, and known familiarly there as the *Mealy Plum*.

This name was well chosen, considering the dry, and mealy, and somewhat sweetish consistence of its pulp, which, beneath the thin skin, invests five hard seeds, so closely adhered to each other, as to seem like the stone of a real plum. In these particulars we have a fruit as distinct as may be, from the fruit of the *Cow-BERRY*; nor do the essential differences end here; for, while the one belongs to the class Octandria, and to the groupe of our Blueberries, Whortleberries, &c., the other ranges under the class Decandria, and represents the *Arbutus* family, under which name, indeed, until quite lately it was known in its Generic appellation.

The *Arbutus*-groupe are well known to florists for their beauty; and of the *Arbutus UVA-URS*I, (our *ARCTOSTAPHYLOS UVA-URS*I,) we are told, by Loudon, that it is an abundant species "in many parts of Europe, especially the Alpine

regions, the berries are food for grouse and other game, and the leaves are used in medicine." Indeed various medical properties are attributed to it. As a plant adapted to the Rockwork, its long trailing stems, deep green leaves, pretty flowers, and dark red fruit, make it a pleasing companion to the *Mitchella repens*, *Linnæa borealis* and *Epigæa repens*, all denizens of our New England woods, and familiar to us through their humble grace.

In conclusion, it will be fairly granted that the habitat of *VACCINIUM VITIS-IDAEA*, as occurring in Danvers, Essex country, Massachusetts, remains as yet singularly unique.

Hingham, 30th Jan., 1850.

ART. VII. *Descriptive Account of Fourteen New and Beautiful varieties of the Phlox.* By the EDITOR.

IN our volume for 1845, (XII. p. 97,) we described twenty-four of the finest varieties of *Phlox*, then in cultivation; accompanying the same with some general remarks on their growth and treatment, to which we refer the amateur in want of such information.

Since then many new and splendid varieties have been produced by the French and Belgian amateurs and nurserymen, several of which have already been introduced into our collections. Some of them are particularly remarkable for their delicate tints, and no collection of this easily cultivated, hardy and beautiful tribe can be complete without them. We have therefore brought together the following descriptions of fourteen of the most conspicuous which have flowered with us the last two years, so that the amateur cultivator may select therefrom such as will complete his collection, and give him all the various shades which have so far been produced.

1. *ARSINOE*.—Flowers good size, pearly white, with violet eye; petals slightly undulated, entire on the edge; foliage narrow; flowering in August and September; height one to two feet.

2. **ANNAIS.**—Flowers good size, of fine round form, creamy blush, with large pink eye; petals flat of good substance, and smooth on the edge; foliage narrow; flowering in August and September; height one to two feet.

3. **AUGUSTE.**—Flowers, medium size, of a lilac rose, somewhat shaded; petals good form; foliage narrow; flowering in August and September; height one to two feet.

4. **BEPPPO.**—Flowers, large size, and fine form, of a deep rose, shaded with crimson; petals good form, and substance, smooth on the edge; spike of flowers dense, large and fine; foliage rather narrow, very glossy; flowering in August and September; height one to two feet.

5. **CAMILLE.**—Flowers large, white, with violet eye; petals good form, slightly undulated; foliage narrow; flowering in August and September; grows from one foot to eighteen inches high.

6. **CROMWELL.**—Flowers large, pale pink, shaded with lilac; petals good, round, smooth on the edge; foliage narrow; flowering in August and September; height one to two feet.

7. **DUK DE NEMOURS.**—Flowers, medium size, rosy lilac; petals good form, but slightly pointed; tube of flower very long which give the spikes of blossoms a loose appearance; foliage narrow; flowers in August and September; height eighteen inches to two feet.

8. **GÖTTE.**—Flowers medium size, fine white; petals good form and substance, smooth on the edge; panicles large and considerably branched; foliage narrow; flowering from July to September; height eighteen inches to two feet.

9. **ROBERT DE FLANDRES.**—Flowers large, clear blush, beautifully pencilled and striped with pink; petals broad rounded, of good substance, and smooth on the edge; foliage narrow; flowering in August and September; height one to two feet.

10. **REINE DE JOUR.**—Flowers good size, blush, with large crimson eye; petals rather narrow, of good substance and smooth on the edge; tube long; foliage narrow; flowering in August and September; height one to two feet.

11. **ROSETTA.**—Flowers very large, rich dark rose, of a beautiful round form ; petals large, round and smooth on the edge ; foliage glossy and narrow, though somewhat broader than most of the narrow leaved sorts ; flowering in August and September ; height, one to two feet.

12. **STANDARD OF PERFECTION.**—Flowers good size, white, distinctly and delicately striped with pale lilac ; petals slightly wavy ; round, entire on the edge ; panicles of flowers ample ; foliage narrow ; flowers in July and August ; height two to three feet.

13. **SPECULUM.**—Flowers large, blush white, mottled with pink ; petals good form ; foliage narrow ; flowers in July and August ; height two to two and a half feet.

14. **TRIUMPHATOR.**—Flowers good size, clear white, with delicate stripes and pencillings, of deep amaranth ; petals fine form, smooth, round, and entire at the edge ; panicles of flowers dense ; foliage narrow, glossy ; flowers in July and August ; height two to three feet.

This variety was raised by M. Rodigas, who has devoted himself to the production of seedlings, and is one of the most extensive and successful cultivators of the Phlox in Europe. His seedlings are among the finest which have been produced. Triumphator was selected among thirty thousand seedlings, and is conspicuous for the delicacy of its tints, the form of the flowers, and the general habit of the plant.

ART. VIII. *Nemophila Maculata.* By the EDITOR.

ALL the *Nemophilos* are pretty annuals, either as ornaments of the conservatory or flower garden. *N. insignis* is especially one of great beauty, and invaluable as a winter flowering plant. Well grown, and placed on an elevated shelf, or suspended from the roof, its slender stems depend over the pot, and completely cover it, producing innumerable quantities of its gay cerulean blossoms, which contrast prettily with its tiny foliage. *N. discoidalis*, is more curious than

beautiful ; its almost black flowers, with a whitish disc, having a singularly attractive appearance. *N. atomària* has white flowers speckled with dark spots, and though not conspicuous, is a neat little plant. All of them are natives of California, and the *N. insignis* was one of the discoveries of Douglas, in his first tour to the north-west coast.



Fig. 9. *Nemophila Maculàta.*

N. maculàta, the species now under notice, is another Californian species, recently introduced by Mr. Hartweg, who was sent out by the London Horticultural Society to explore the riches of that country, in 1846 and 1847. Mr. Hartweg, in the journal of his mission, published in the *Journal* of the society, (Vol. III, p. 217,) states, that he made two or three excursions to the valley of the Sacramento, at different seasons, where he found many of the Californian plants already introduced. It was in one of these visits, in April, 1847, that he found the *Nemophila maculàta*, on the bank of the Chuba

river. "It grows generally near rivulets, or in damp and partly shaded places."

Seeds of it were received in the fall of 1847, and in 1848, it first flowered in the Horticultural Society's garden, and was described and figured in the *Journal* of the society for that year. It was considered the best annual raised from Mr. Hartweg's seed; with the habit of *insignis*, it has whitish flowers, with a deep violet blotch on the end of each tube of the corolla. Like all annuals, however, the plants vary in color, the blue spot being often ill-defined and run; but by careful saving of the seed, its great beauty may be preserved. Mr. Hartweg called it *N. speciosa*, which, being an objectionable one for its color, Mr. Bentham substituted that of *maculàta*. Our engraving, (*fig. 9.*) accurately represents this fine plant.

Our plants are not yet quite large enough to bloom, but two or three specimens exhibited by Mr. Barnes, of Dorchester, at the Massachusetts Horticultural Society, on the 9th of March, fully establish its reputation as the finest annual lately introduced.

It requires the same treatment as the *N. insignis*, and grows as freely as that species. The seeds may be sown in pans, in a frame, or cool hot-bed, and when an inch high, the plants may be potted off singly, in small pots, and be either shifted into larger ones to bloom, or turned out into the open ground in May.

For winter blooming, a second sowing should be made in August. These plants, if properly managed, will flower from December to May.

The following is a recapitulation of the most showy kinds:

<i>Nemophila atomària,</i>	spotted,	(white dotted.)
— — — <i>cœlestis,</i>	sky blue,	(blue, spotted.)
— — — <i>discoidàlis,</i>	bordered,	(black, eyed with white.)
— — — <i>insignis,</i>	beautiful,	(blue.)
— — — <i>alba,</i>	white,	(white.)
— — — <i>grandiflòra,</i>	large flowered,	(blue.)
— — — <i>striata,</i>	striped,	(striped.)
— — — <i>maculàta,</i>	new spotted,	(white, spotted with violet.)

Every flower garden should have three or four of these.

MISCELLANEOUS INTELLIGENCE.

ART. I. *General Notices.*

NEW MODE OF PRESERVING, OR TRANSMITTING TO A DISTANCE, CUTTINGS OF PLANTS.—Various methods have been tried whereby cuttings of tender plants may be safely conveyed to a distance, all of which are, in some respect or other, defective. A most ingenious and effective method was shown to us the other day by Mr. Daniel, gardener to the Baron Hugal, of Vienna, who is, at present, travelling in this country, collecting animals and plants for the young Emperor of Austria. We may also remark, that Mr. Daniel is a native of Holland, a most enthusiastic gardener and botanist, has made several tours to this country, as well as having visited most of the best collections in Europe.

He carries with him several cylinder-shaped glass bottles, with wide mouths and glass stoppers, similar to those used in chemists' shops for holding medicine; into these he throws his cuttings, just as they are taken from the plant, without any particular arrangement or order; a very little water is placed in the bottle, and when filled with cuttings, the stopper is hermetically sealed up. In this way he has been collecting for several weeks, and those he had from both Mr. M'Nab and ourselves, although they will not reach Vienna for probably a month or six weeks, he is satisfied they will arrive in safety, and grow. He stated to us, that cuttings kept in similar bottles, for fifteen weeks, had grown most freely, and that many instances had occurred, where they had sent out roots during their journey, and were immediately potted on their arrival at Vienna. So simple and efficacious a mode of sending cuttings deserves to be brought before the notice of cultivators, the rationale of which will be readily comprehended by such as have studied the principle of the Wardian case. To prevent accident in transit, these glasses may be packed within small wooden cases, for short journeys, but as light may have something to do in the matter, when sent to a great distance, arrangements might be easily made by which they could be placed within its influence.

Specimen heaths of the rarer, and more difficult sorts to grow, are wrought by Mr. Daniel upon the stronger growing kinds, such as *melanthera*, *arbores*, &c.; on these the tricolors, *Massoni*, *elegans*, &c., are grafted, and some attain a very large size; nor does it appear, from Mr. Daniel's experience, that they are afterwards short-lived. He was much struck with many of the plants in the Edinburgh Botanical Garden, and pronounced several of them as unrivalled in Europe. Nor was he less gratified in having an opportunity of seeing Mr. M'Nab's most judicious method of shifting large plants, it so happening that the splendid plant, *Cocos nucifera*, was undergoing that operation during the time he was in the garden. (—*Jour. of Hort.*, 1850, p. 153.)

SELECT FLOWER AND KITCHEN-GARDEN SEEDS.—As cultivators of gardens are now making their purchases of seeds for the season, perhaps it will

not be out of place to point out a few of the most choice and useful varieties, concerning the culture of which we shall treat in the Calendar of Operations as the proper times come round.

Amongst plants for the stove and warm conservatory, do not omit *Thunbergia alata* and its varieties, *Ipomœa bona-nox*, *I. rubro-cœrulea*, and *I. Quamoclit*, *Hibiscus insignis*, *H. Manihot*, *Momordica* sp., *Gomphrena globosa*, *Balsams*, *Cockscombs*, and other general favorites.

Amongst useful plants for the greenhouse and cool conservatory are *Schizanthus*, *Primula sinensis*, and *Rhodanthe Manglesii*. A very nice lot of *Calceolarias* and *Cinerarias* may generally be obtained by procuring a packet of seed from any respectable dealer, or well-known grower of these flowers; of course, show varieties must not be expected, but, for conservatory or drawing-room decorations, they will save more expensive varieties. One of the most beautiful creepers for the cool conservatory is *Tacsonia mollissima*; it is of a delicate rose color, and very graceful in habit, beautifully adapted for hanging in natural festoons from the roof of a lofty house; its fruit is also interesting, especially when it bursts, and displays its wax-like seeds. It will flourish in a very cool greenhouse, and, as it generally seeds under good management, it may be procured by this means.

In the way of biennials or perennials for partial protection, or entire exposure in the flower garden, we may particularly instance the following, which may be raised from seeds. First and foremost, we place the *Humea elegans*, which requires growing one year as a frame plant, to prepare it for planting the next year; it is by far the most graceful and ornamental, half-hardy plant which finds a place in the flower garden. *Stachys*, *Pentstemons*, and *Antirrhinums* are pretty and useful plants, which require very little protection; and amongst those which do not need any protection, the most striking are *Alstroemerias*, the *Hollyhock*, perennial *Larkspurs*, (*Delphinium*,) *Monkshood*, (*Aconitum*,) and several species of *Dianthus*, *Campanula*, and *Papaver*.

Hardy and half-hardy annuals are so numerous that we shall only mention a few of those which are deserving of a place in every garden, however small. Those which succeed better if raised under glass, and afterwards transplanted, are *Lobelia gracilis*, *L. erinus*, *L. ramosa*, and their varieties; *Phlox Drummondii*, *Saponaria calabrica*, *Calliopsis*, and if room can be afforded them, German Stocks and German Asters. Those we select for sowing in the open ground are the following:—*Centaurea cyanus* and *depressa*, *Bartonia aurea*, *Clarkias*, *Calendula*, (*Marigold*,) *Collinsias*, *Corydalis*, *Delphinium Ajacis*, *Eschscholtzia*, *Gilia tricolor*, and *G. achilleæfolia*, *Godeatia*, *Iberis*, (*Candytuft*,) red and white; *Lathyrus odoratus*, and others; *Malcomia*, (*Virginian stock*,) *Nemophila*, *Tagetes*, (*French and African Marigold*,) with *Marseilles*, *French*, and other double Poppies.

One or two of the above are worthy of particular attention: the first of these is *Delphinium Ajacis*, the branching Larkspur, than which nothing can be more beautiful or useful; it is equally appropriate for planting singly in mixed beds, in straight lines, or in large masses, and these may be either dwarf or tall, by simply pegging the plants down, or by tying them up. Cen-

taurea cyānus, growing two feet high, and *C. depressa*, five inches high, are equally beautiful, and exceedingly useful in making bouquets.

Before we conclude this section of the subject, it will be proper to notice a few half-hardy ornamental creepers, of which seeds should be procured: these are *Calampelis scabra*, *Lophospermum*, *Maurandya*, *Scyphanthus*, *Cobæa scandens*, and the different varieties of ornamental Gourds; of the latter we would particularly mention the Turban, or Turk's Cap, and the Bottle Gourd, as these two varieties are considered hardier than others.

We close these remarks with a few words on kitchen garden seeds. Nothing can be more absurd than for a gardener to encumber himself with an extravagant number of varieties of the different culinary vegetables.

Of Peas we content ourselves this year with four varieties; two of them, Bishop's Dwarf Long-podded, and Fairbeard's Champion of England, we proved last year to be far superior to those we had previously grown, and which had been selected, in former years, after careful experiments. The other two kinds, which we still grow this year, are Hairs' Dwarf Green Mammoth, and Burbridge's Eclipse.

We have one sort of garden Bean, "The New Royal Cluster;" and one variety of Kidney Bean, "The Dwarf Prolific;" these two Beans we last year proved to be superior to all other Beans which have come to our knowledge.

One kind of Borecole is enough, the dwarf, hardy green; and of Broccoli, we know only four varieties, which we have tested in former years, viz.:—Snow's Superb White, Knight's Protecting, Early Purple Cape, and Early White; and two new late ones to try against our older favorites, viz.: Imperial Winter, and Elletson's Mammoth.

Of Cabbages, we have the true Early York for culinary Cabbages; Drum-head for "Sour-kROUT;" and Chappel's Colewort for the purpose which its name implies.

Of Cauliflowers, the Early Asiatic and the Walcheren are what we use.

Of Carrots, the Dutch Horn for forcing, and the Altringham for general crop.

Of Celery, we limit ourselves to one kind, Cole's Superb, or "Celery violet," a variety of undoubted superiority.

Of Lettuces, we select the Brighton Cos, or Paris Cos, the Hardy Hamersmith Cabbage, and the Drumhead.

Of Onions, for general crop, the White Spanish, the Deptford, the Brown, and White Globe; for Salads, the two-bladed for pickling, the silver skinned; and for autumn sowing, the Tripoli.

Of Radishes, one long-rooted variety, and the red and white globular, with black Spanish for winter use, and the white Naples to produce roots for pickling.

Of Spinach, the round for summer use, and the hardy, prickly for winter.

Among the items which ought not to be omitted are the Ice-plant for garnishing, Chicory and Lamb's Lettuce for winter Salads, Hamburg Parsley for the sake of its roots, and *Nicotiana Tabacum* for fumigating.

In the above remarks I have not noticed those vegetables of which only

one or two varieties exist, even in seedmen's lists, as mistakes can scarcely take place in such places.—(*The Writer of the Calendar in the Gard. Chron.* 1850., p. 86.)

REMARKS ON EARLY FLOWERING PLANTS FOR THE GREENHOUSE, BY JOHN McARDELL.—In general, the early flowering kinds of greenhouse plants are not cultivated to a great extent. In the months of February, March, and April, every open flower attracts more attention, and really appears more lovely, than at any other period of the year. It is yet too early to expect anything in the flower garden, therefore the greenhouse is the only place where the desired pleasure can be obtained, and there, too frequently, we only have the sight of the green leaves or bare stems. This solely depends on the selection of plants when furnishing the house, and therefore may easily be prevented. The following is a brief notice of a few plants that bloom at this season, with remarks on their management. No doubt there are others equally suitable, besides those I am about to recommend, very suitable to decorate the greenhouse. And first, the *Epacris* tribe, which contains so many interesting varieties, are first entitled to notice, since from January up to the beginning of May, one or other of them will be in flower, and grow freely in peat and white sand, the former well broken; the young shoots should be stopped by pinching off the ends. *Cosmelia rubra*: The habit of this plant, and manner of flowering very much resemble that of the *Epacris*, although the flowers are larger, and of a deeper color; it thrives well under the same treatment as *Epacris*. *Pultnia stricta*—an old and much neglected plant, yet it certainly is a beautiful thing when well managed; its spikes of bright yellow and red pea-shaped flowers, abundantly produced, make it a most lovely object; it should be cut back just after it has flowered. *Chorozema Lawrenciana*, *C. varium*, *C. varium rotundifolia*, *C. ovatum*, and *C. Henchmannii*, are the best of the tribe, and will all flower about this time; they require shifting. *Hovea Celsi* and *Hovea pungens* are also fine plants to bloom at this time; the latter is of a darker color than the former. *Eutaxia myrtifolia*: this is a very handsome greenhouse plant. When the young wood has made three or four joints, every shoot should be stopped; by this treatment it may be formed into a neat dwarf shrub; it is a free bloomer. *Pimelea*: this genus, with its beautiful heads of pink, white, and red flowers, are amongst the best of greenhouse plants: they are not so easily grown as some plants. I have seen *Pimelea Hendersoni*, and *P. spectabilis* grafted on *P. dicussata* and *P. drupacea*, and in this way they do much better than when grown upon their own roots. *Leschenaultia formosa* is a delicate dwarf-growing plant, very difficult to manage, but, when grown well, is a most lovely thing, covered with bright red flowers. It should be potted in rough peat with a good mixture of silver sand, and should always receive a good supply of air and water, both summer and winter. [Winter?] *Boronia anemonæfolia*, *B. viminia*, and *B. surculata*, are splendid plants, [*anemonæfolio*?]; these will not flower until April, and then they are fine objects, the color of their flowers being a rich rosy red: they should be grown in peat-leaf mould, and silver sand. *Kennedya monophylla* is a lovely climbing plant, bearing long trusses of blue pea-shaped flowers: it grows well in peat and leaf mould, with a

little sand; and should be trained upon a trellis. The above named plants will all succeed well under the same treatment. They delight in sandy peat, and should have plenty of air and water at all times. They should be frequently stopped to keep them close and dwarf, except the *Kennedya monophylla*. I will also add to this list the *Genista rhodophaena*; this is a splendid plant, with its bright yellow blossoms, and requires to be grown in rich loam and leaf mould. It requires very little pruning, as it is naturally a dwarf-growing plant. A greenhouse containing the above named plants in flower, with the assistance of a few azaleas, camellias, and rhododendrons, I think, would be all that could be desired. [Perhaps it is necessary to caution some of our readers, as we think our correspondent has expressed himself somewhat unguardedly with respect to watering. Plenty of air is, doubtless, very good advice; but plenty of water would imply, that the plants in question had little to fear but the want of water. In summer, this advice may be liable to but little objection, but not so in winter. We believe most persons find it, of all things, the most important to be careful of winter watering.—(*Gard. Chron.*, 1850., p. 117.)

ART. II. Domestic Notices.

SECOND ANNUAL FAIR OF THE MICHIGAN STATE AGRICULTURAL SOCIETY.—The second annual show of this society will be held at Ann Arbor, on Wednesday, Thursday, and Friday, the 25th, 26th, and 27th of September next. A list of the premiums offered, with the rules and regulations has been forwarded to us by our correspondent, Dr. J. C. Holmes, corresponding secretary of the society. The amount of premiums in books, money, &c., amounts to upwards of \$2,000, and among them very liberal prizes are offered for horticultural, floricultural, and agricultural productions. A copy of our *Fruits of America* is offered for the greatest and best variety of winter apples; and also copies of the *Magazine of Horticulture*. We hope the dissemination of these works among our western friends will aid in extending the taste for fruits and flowers.

With a view to the establishment of a central office, which shall contain an agricultural library, museum, &c., for the benefit of the members of the society, all persons who feel interested in the establishing of such an office, and are willing to assist, are invited to send specimens of wheat, wool, improved agricultural implements, machinery, seedling, or engrafted fruits, &c., &c., directed to J. C. HOLMES, *Secretary of the Michigan State Agricultural Society*, 108, Jefferson Avenue, Detroit.

CINCINNATI HORTICULTURAL SOCIETY.—The next annual exhibition of this Society will be held in Cincinnati, on the 11th, 12th, and 13th of September next.

We are gratified to learn, from the prize-list which has been published,

that very liberal premiums have been offered for flowers and fruits. We have not room for the entire list, but among others are the following.—**APPLES.**—For the best ten varieties, not less than six of each, \$10. For the best display of all kinds, a silver cup, \$20. **PEARS.**—For the six best varieties, not less than six of each, \$10. For the best display of all kinds, \$20. **PEACHES.**—Five best varieties, \$10. Best display, \$20. **GRAPES.**—Best display of hardy varieties, \$10. Best display of foreign, in variety, \$15; with second premiums for each class of less amount. **GREENHOUSE PLANTS.**—Best display, \$25. **DAHLIAS.**—Best twenty-four blooms, \$10. Best display, \$15; with numerous other prizes for flowers of all kinds, and also for vegetables.

The Ohio Agricultural Fair, the Ohio Mechanics' Institute Exhibition, and the American Pomological Congress, are all appointed to take place at the same time, in Cincinnati, making the occasion one of great interest to all; especially to cultivators at a distance it offers great inducements to attend.

The Society are also exceedingly desirous that the fruit growers of the West should bring specimens of their collections for the inspection of the Pomological Congress, which will be composed of the most intelligent fruit growers from all the States of the Union and Canada. Communications, &c., should be addressed to WILLIAM RESOR, Esq., *Chairman of the Council*.

THE BUFFALO HORTICULTURAL SOCIETY.—The annual meeting of this society was held on the 18th of February, 1850, and the following officers were elected for the current year:—

President,—Lewis Eaton.

Vice Presidents,—H. B. Potter, W. W. Howell, Jesse Ketchum, W. H. Southam, Abner Byrant, Thomas B. Chase, Morgan G. Lewis, James G. Masten, Jason Sexton.

Corresponding Secretary,—Benjamin Hodge.

Recording Secretary,—C. F. S. Thomas.

Treasurer,—A. A. Howard.

The Treasurer was directed to procure, for the use of the Society, a copy of Hovey's *Fruits of America*, and also to subscribe for the periodicals taken last year, and the *Prairie Farmer* also.

A resolution was adopted, recommending *Hovey's Magazine* and *The Horticulturist* to the confidence and support of all engaged in the promotion of horticulture.

It was also voted, that the award of the diploma of the Society shall be considered an evidence of the highest merit.

IMPROVEMENT OF THE GOOSEBERRY, CURRANT, AND BLACKBERRY.—Of our native gooseberry there are four varieties,—all hardy,—all productive, and above all, good fruit, and it is said, never liable to mildew, as the foreign kinds are; and the fruit of our native best kinds are now very far superior, to what it is said the English originally were. Doubtless by cultivation, by reproduction, for a few generations, ours may be wonderfully improved. Our currants, I think, by art, may also be greatly increased in flavor and size. Our high bush native blackberry is an exceedingly fine,

productive fruit, and I think highly deserving to be domesticated, and improved in flavor and vast size.—*Truly yours*, W. KENRICK. *Feb.*, 1850.

NEW HARDY EVERGREEN TREES.—I take great interest in your description of pines, very great; and much desire to see them introduced,—all such as will bear our climate. The following, from what you have stated, will, I suspect, prove hardy in lat. 42° *here*. *Cèdus Deodàra*.—Funeral Cypress; *Pinus Strobus nivea*; *Pinus excelsa*; *A'bies Smithiàna*; *Thùya filiformis*. As to the Japan cedar, (*Cryptomèria*), and the whole tribe from New Mexico and California, I have doubts of them all; except only such of them as the Douglass, which may also be found as high up on that coast as the lat. of 53°. The province where Mr. Fortune found the Japan cedar was Chusan, I think, and the Nankin cotton and tea district, but the *funeral cypress* was in cold mountainous districts, full 200 miles north, province of The-hol, "*near the Tower of the Thundering Winds*." What is the *Juniperus pendula*? It is said to be beautiful. Have you the New Evergreen Larch, which originated late in England. Thus, there are probably six varieties, (as you will suppose, all hardy,) to add to our beautiful Norway spruce, three of which, at least, are splendid weeping trees, which we want, namely, *Deodàra*, *T. filiformis*, and *funeral cypress*.—*Yours*, W. KENRICK, *Nonantum Hill, Newton, Mass., Feb.*, 1850.

THE SEASON IN PENNSYLVANIA.—Our peaches are all killed in the low grounds. On the 15th of January last, the thermometer, in the morning, was down to 8° below zero,—the *only* cold morning that we have had all winter, and the only time the mercury descended below zero; generally, the weather was mild. The 14th instant, the thermometer stood at 73° at noon, and ranging from about 30°, in the morning, to 50° and 60°, at noon, all through the present month. We had considerable snow during December,—not much in January,—but a great deal of rain; not much snow in February,—much rain; in March considerable rain, and much open and pleasant weather; the ground in fine order for farming operations. Yesterday, I sowed my oats,—to day it is snowing in real earnest; thermometer 32°,—snow now,—8 o'clock, P., M. three inches deep, and may be much deeper, as it still continues. Vegetation has made a start; grain fields never had a more promising appearance, at this season of the year, then at present, yet, the prospect to farmers is not encouraging; the productions of the farm, as grain and cattle, are at this time very low, and scarcely any demand, while the *expenses* of farmers, such as repairs, taxes, labor, and various other outlays are as high as ever before. *Yours, &c.*, J. B. G., *Columbia, Pa., March 23d*, 1850.

ART. III. *Massachusetts Horticultural Society.*

Saturday, February 23, 1850. An adjourned meeting of the Society was held to-day. The President in the chair.

The chairman of the committee on Flowers reported that he had put up

the seeds placed in his hands, in twelve separate lots, to be distributed among the members.

The committee to whom was referred the President's address made a report which was read and recommitted for alteration and amendment.

Letters were read from Gen. Taylor, President of the United States, and Rev. George Putnam, honorary members; and J. J. Thomas, Dr. Wendell, S. B. Parsons, Dr. J. A. Kennicott, F. R. Elliott, and C. Downing, corresponding members, acknowledging their election.

A committee of three, consisting of Messrs. Hovey, Leach, and Austin, was appointed to arrange the proceedings of the Society, for the last and concluding number of the *Transactions*, with a list of the members, &c.

The Executive Committee were authorized to make the appropriate repairs in the Hall.

Geo. B. Caldwell and Wm. McRea, Roxbury, were elected members. Adjourned two weeks to March 9th.

Exhibited.—VEGETABLES. From W. C. Strong, a basket of string beans.

March 2d. Exhibited.—FRUITS. From J. Washburn very fine specimens of Easter Beurré Pears, perfectly ripened, high colored, and of delicious quality.

VEGETABLES. From T. Needham, a basket of string beans.

March 9th. An adjourned meeting of the Society was held today—the President in the chair.

The Report of the committee on the President's address was read and accepted. [As it is one not only of interest to all the members, but to the public generally we make no apology for inserting it entire.]

The special committee, to whom the anniversary address of the president of the society was referred, for the purpose of considering the several recommendations therein contained, in view of the action of the society in relation thereto, beg leave to report, that they have attended to the duty imposed on them, as far as time and circumstance would permit, and now submit the results of their deliberation and inquiry.

The suggestions contained in the address alluded to, are entitled to the favorable consideration of the society, not only as the recommendations of high official station, but as the conclusions of a sound judgment, active zeal, cultivated taste, and liberal spirit, long displayed in promoting its various interests; and on these accounts, as well as for their practical value, commended themselves to your committee.

That favorable results have attended the efforts of this society, in promoting a taste for horticultural science, and a love for horticultural pursuits, cannot, with truth, be gainsayed. By its weekly exhibition, it has brought to the knowledge of its members and the public, the gains of a liberal enterprise and intelligent skill, in many new varieties of choice fruits, and rare and beautiful flowers; and by its premiums, offered and awarded for superiority in each, it has exerted a laudable spirit of emulation, and has done somewhat towards promoting an improved mode of cultivation in both. But although much may have been done,—perhaps all, that, in the infancy of the society, should have been attempted,—very much more remains to do, before

the ends for which the society was instituted can, if they ever can, be approximated. Years have brought to the society an increase in the number of its members; and this, assisted by the liberal bequests and donations of its friends, an addition to its funds; and this increase in its means of usefulness, authorizes, if it does not demand, an attempt in advance, towards attaining the ends for which it was organized.

An opinion has long been entertained, by some, at least, of the members of the society, that some effort should be made, for their mutual instruction in a more economical and scientific cultivation of trees and plants, than at present generally prevails. Different modes have been suggested, in reference to this result, and one of the recommendations of the president seems to have had this end, with others, in view. If a committee of the society shall occasionally, through the season, visit the gardens of such of the members as may desire it, in order to ascertain those which are the neatest kept, best cultivated, and most economically managed,—and, at the same time, inform themselves minutely of the mode of cultivation pursued in each, the nature of the different soils, and the kinds of manure applied, and shall, in their report, detail the extent of their observations and inquiries in these particulars,—something may, perhaps, be done, towards attaining the object last alluded to, and carry out, at the same time, the suggestions contained in the address. But whether this may be so, or not, your committee heartily concur with the president, in his recommendation of offering a premium for the neatest kept, most economically managed, and best cultivated garden; and also, for grounds specially appropriated to vegetables, fruits, or flowers, distinguished by like characteristics; and they further advise, that a premium should be offered for similar superiority, displayed in the cultivation of grapes or plants, under glass, in greenhouses or graperies. The award of premiums, as at present offered by the society, though attended with beneficial results, and fairly made, is not always a true criterion of merit. Exclusive attention may have been bestowed, by the successful competitor for the prize, upon one production, or upon a limited number of trees or plants, to the exclusion of all others, and thereby bear away the prize of superiority,—and justly, too, under the rules of the society,—from him, whose garden, for scientific cultivation, neatness, and economy in management, may be a pattern.

A regular, scientific course of lectures, upon subjects connected with horticulture,—as upon the nature of the different varieties of soil, the fertilizers and stimulants adapted to each, the cultivation best suited to them, the vegetation for which they are best fitted, or giving an account of destructive insects, their habits and history, with the modes for their destruction,—would, doubtless, be both instructive and entertaining; and the delivery of a course of this description, if those qualified for the duty would place their services at the disposition of the society, be desirable and beneficial. But, as the members of the society are scattered abroad over the State, and could improve the opportunity but to a limited extent, if such was afforded, and as the information alluded to can readily be obtained from books, where it is wished,—the small number of members to enjoy this advantage, if provided.

for them, and the pecuniary circumstances of the society, do not, in the opinion of your committee, justify an appropriation of money for this purpose.

The cultivation of a taste for, and instruction in, the art of landscape gardening, seems one of the legitimate objects of our association, and, for its own sake, is highly worthy of encouragement. Nothing contributes so much to the beauty and ornament of a country residence, as grounds neatly kept, laid out with taste, upon correct principles of art, and founded on the teachings of nature; and any measure that can be adopted, for the cultivation of this taste, and the improvement of this art, within the means of the society, is worthy of its serious consideration. With all due deference, however, for the enlightened judgment from which it emanates, your committee cannot feel that the carrying into effect of the recommendation of the president, for the establishment of a professorship of landscape gardening, would be attended with any practical benefits to the society, or the public; but believe that any effectual encouragement of the art is, at present, beyond the means of the society, and that it must continue to be dependent, for its cultivation and improvement, upon the formation of an improved taste, and sense of its want, on the part of the public.

The production of new varieties of fruits, from seed, is an object especially worthy of the attention of the society; not only because such may be supposed to be better adapted to our soil and climate, than such as are of foreign origin, but because, both from past experience, as well as upon scientific principles, great improvement, especially in some species, may reasonably be expected. With respect to some species of fruits, it is true, so great improvements have in this way already been effected, as to leave, indeed, but little to be hoped for; while the improvement and amelioration of others, by raising of seedlings, have been almost entirely neglected. While, during all seasons of the year, the choicest varieties of pears and apples, already approximate to perfection, and Hovey's seedling is such an advance, both in size and flavor, beyond the common strawberry, as to leave but little to be desired, and the Diana grape shows what can be effected by raising of seedlings of that species of fruit, the improvement of the blackberry, the currant, and the gooseberry, seems almost to have escaped the attention of fruit cultivators in this country. Notwithstanding the degree of perfection already attained, liberal premiums are offered by the society, for new pears and apples, of native origin; and it has appeared to your committee advisable, that a similar encouragement should be extended, for the production of a new variety, from seed, superior to any now in cultivation, of those above named as comparatively neglected.

The recommendation, or suggestion, of the president, as to the expediency of holding the next annual exhibition of the society under a tent, instead of, as heretofore, in the hall of the society, or some other larger room, has been, with your committee, a subject of serious deliberation, and careful inquiry. It is a matter calculated to give rise to considerations of an opposite character, and is one about which opposite opinions will probably be entertained, as the considerations suggested may appear, one way or the other, to preponderate. The expense attending the holding of the exhibition in any other

place than the hall of the society, is a matter of no small importance ; for, while a niggardly parsimony in the management of the affairs of the society is to be avoided, care should be taken, that a liberal economy in expenditure does not run into a wasteful extravagance. The removal of the furniture, fixtures, and dishes,—the newly filling up and arranging them,—the hire of the tent, or hall, and the lighting of it,—must necessarily be attended with much cost, without taking into view the loss arising from the breakage of, or injury to, the furniture ; a loss that cannot be wholly avoided. The increased cost to the society, of having its exhibition at any other place than its own hall, would, then, seem to be a sufficient objection to the so doing, unless obviated by some expected corresponding increase of advantage, to be derived therefrom. And this, those who favor the project confidently anticipate, from a greatly increased number of visitors ; increased over what it would be, if the exhibition was held in the hall of the society, to an extent more than sufficient to balance any increase of expenditure thereby ; and by a sufficient space obtained, to exhibit the fruits and flowers to advantage ; space, as they say, that cannot be afforded in the hall of the society. That the few last annual exhibitions of the society have, from some cause, been less numerous attended than is desirable, is not to be denied. Whether the holding the exhibition under a tent, would, from its novelty, be more attractive to the public, can only be decided by the experiment. Although the hall of the society may not be sufficiently ample, to allow of a suitable arrangement of plants and decorations, if room is reserved for *all* the articles that may be sent to the exhibition, yet if only such fruits are placed upon the table, as are, from their novelty or superiority, objects of interest, or worthy of notice, sufficient space can probably be provided therein, and in the store under the hall,—the use of which, for the occasion, has been most liberally tendered by its proprietor, for the purposes of the society.

But, independent of the expense attending it, there is another inconvenience, that should not be overlooked, or too lightly estimated, that may accompany the having of the annual exhibition under a tent ; and that is, the exposure to which the committees required to be in attendance may be subjected, and the serious risk of injury to health arising therefrom, at a season of the year to which our autumnal diseases are incident,—particularly if the weather should be unpropitious ; a contingency that may, not improbably, occur, and that would deprive the society, should it happen, of the expected advantages arising from an increase of visitors. In answer to objections of this character, it is denied that any undue exposure need be incurred ; that all proper protection can be afforded, and needed accommodations provided ; and that, though storms may occur, they should not be anticipated.

Your committee learn, from inquiry, that the expense attending the holding of the exhibition in any of the larger halls in the city, would be so great, as to render it wholly inexpedient. A tent, as they are informed, is now in process of construction, two hundred and fifty feet long, and one hundred and fifty feet wide, for Mr. John Wright, the cost of which will be about \$1,500 ; that it will be completed in a short time, and that it is the intention of that gentleman, to let it for such purposes as it may be required for. The

sum to be charged for the use of the tent, is not yet decided on; but would not, probably, for the time the society would wish it, exceed \$125. The Messrs. Hovey have the charge of the public garden, the only place adapted to an exhibition of the character referred to; it has been, heretofore, let by them, on an occasion somewhat similar, for one-fourth of the net receipts of the exhibition, and could be obtained for the society, if they desire it, on terms not less favorable.

As this subject is one about which entire unanimity of opinion does not, at present, exist, and as no exigency requires an immediate decision with respect to it, your committee are of opinion, that, with their recommendation of its favorable consideration, it had better be referred to the committee of arrangements, with authority to take such measures, in relation to it, as they may deem expedient. Several months must elapse, before the occasion contemplated will arrive; and during that time, that committee will be able to form some opinion, as to the space that will be required to be provided for the exhibition; will be able to inform themselves, in many particulars, as to the expense attending the having it under a tent, of which your committee are now uninformed; will probably have an opportunity to see the tent when erected, and thus be qualified to form a more correct judgment than can now be arrived at, with respect to the expediency of the proposed measure.

One other matter, that, though foreign to the objects of their original appointment, has been referred to them by a vote of the society, remains to be considered by your committee; and that is, the frequency and manner of holding the regular exhibitions of the society for the ensuing season. Heretofore, it has been usual to have an exhibition, by the society, on every Saturday through the year; these exhibitions being held, during the summer, in the hall of the society, and at other seasons, in the library room. To these weekly exhibitions, the public were originally admitted without charge; but as some inconvenience was supposed to have resulted from this course, recently, a small admission fee was demanded. For a very considerable period, the weekly exhibitions of the society were numerously attended; but more recently, either because a fee has been charged for admission, or for some other cause, they seem to have lost their attractions for the public. This is much to be regretted by the society, and should be by those interested in horticultural pursuits, who may not be enrolled among its members. The principal stimulus to contributions to these exhibitions, is the very natural desire, on the part of individuals, to bring to the notice of the public, the results of their successful cultivation or active enterprise, as exhibited in the production of superior specimens, or the introduction of new varieties. If these exhibitions, then, cease to be attractive to visitors, the main incitements to contributions will be withdrawn, and they fail longer to be objects of interest with the members of the society, while the public will no longer be offered an opportunity, should it be desired, to form, by personal inspection, an opinion of the novelties or rarities that may be produced. Under these circumstances, the adoption of one of two measures has been suggested to your committee, as expedient for the society; that is, to attempt the rendering of these exhibitions more attractive, by having them less frequently,

or to seek an increase of visitors, by making them free to the public. The adoption of the course first proposed, would be attended with some inconvenience; the time of holding the exhibitions would not be so extensively known as now, when, after long continuance of the custom, that they are to be regularly on Saturdays, is generally understood; and because it is difficult, if not impossible, if the exhibitions should be held on stated days, to fix beforehand the time when certain fruits or flowers will be most abundant, or in the greatest perfection.

Your committee, in view of these supposed difficulties, and considering it has been the established practice of the society, since its organization, unattended with much expense, recommend an adherence, for the coming season, to the custom of having exhibitions of fruits, flowers, and vegetables, regularly on Saturdays, through the year, in the hall and library room, as heretofore; and, because it would seem to have been more acceptable, and that, without the attendance of visitors, they are of little value, as well as that the charging of an admission fee is not productive of much income, a return to the original practice of making the weekly exhibitions of the society free to the public. And with these statements of facts, and explanation of their views, recommend to the society the adoption of the subjoined orders. All which is respectfully submitted. For the committee,

JOSEPH S. CABOT, *Chairman.*

Ordered, That the selection of a place for holding the ensuing annual exhibition of the society, and the recommendation of the president of the society, in his inaugural address, at the commencement of the year, in relation thereto, be referred to the committee of arrangements, with full power and authority to take such measures in relation thereto, as they may think proper, and to have such exhibition in the hall of the society, or under a tent, (if such can be procured on reasonable terms,) as, in view of the expenses to be incurred, and other circumstances attending it, they shall deem expedient.

Ordered, That during the ensuing year, there be, as heretofore, weekly exhibitions of the society, for fruits, flowers, and vegetables, on Saturdays; and that the public be admitted to such exhibitions, under such regulations as may be now or hereafter established by the society, free of charge for admission.

Ordered, That in addition to the premiums established by the society, there be offered for

The most economically managed, best cultivated, and most neatly kept garden or grounds, through the season, a premium of \$25.

For the second best do., \$15.

For the most economically managed, best cultivated, and most neatly kept fruit garden, for the season, \$25.

For the second best do., \$15.

For the most economically managed, best cultivated, and most neatly kept flower garden, for the season, \$25.

For the second best do., \$15.

For the most economically managed, best cultivated, and most neatly kept vegetable garden, through the season, \$25.

For the second best do., \$15.

For the best managed, most economically conducted, and well kept greenhouse, through the season, \$25.

For the second best do., \$15.

For the best managed, most economically conducted, and well kept grape-ry, through the season, with or without fire heat, \$25.

For the second best do., \$15.

Ordered, That for the following named objects, to be originated after Jan. 1, 1850, and that, after a trial of three years, shall be deemed superior in quality, and other characteristics, to any of the same species now extant, the following named premiums be offered, viz. :—

For the best seedling blackberry, a premium of \$40.

For the best seedling currant, red or white, a premium of \$25.

For the best seedling gooseberry, a premium of \$25.

The premiums offered for the same, to be awarded by the standing committee on fruits, for the time being.

Ordered, That the premiums now offered for the best kept grounds, fruit, flower, and vegetable gardens, greenhouses and graperies, be awarded by a special committee, consisting of five members, to be appointed by the chair for that purpose, whose duty it shall be, to visit such grounds, gardens, and houses, &c., as may compete for the same, at least twice during the season and as much oftener as they may think proper, without giving notice of their intention to do so; and in making their awards for the same, shall have regard, not only to the neatness exhibited, and skill in cultivation displayed, but also to the expense and economy with which such have been attended, and that they be and are authorized, when they think proper, to require of the owners of the same, a statement, in writing, of the management pursued, the expense incurred, the mode of cultivation adopted, the manure applied, and such other particulars as they may see fit to require, under the penalty of a right to withhold any of said premiums, that would otherwise be awarded, if such requirements are not complied with.

It was voted that the committee for inspecting the gardens and awarding the premiums be appointed by the chair.

It was voted that a silver medal be awarded to A. W. Haven, of Portsmouth, N. H., for five specimens of pears exhibited last fall, and overlooked by the Fruit Committee.

A letter was read from Dr. H. Wendell, of Albany, accompanied with a report of the Proceedings of the North American Pomological Convention, at Syracuse.

Wm. A. Crafts, of Roxbury, was elected a member. Adjourned two weeks to March 23.

Exhibited.—**FLOWERS**. From Hovey & Co. twelve fine Azaleas of the following varieties :—*Splendens*, *speciosa*, *speciosissima*, *triumphans*, *punicæflora*, and six beautiful seedlings; also, six Chinese Primroses, viz. :—

two double white, one double purple, two single purple, and one single white, all large plants in *eleven inch pots*, the double purple having more than *two hundred* flowers expanded. From P. Barnes, three seedling Azaleas and two plants of *Nemóphila maculata*, a new and pretty variety.

AWARD OF PREMIUMS.

GREENHOUSE AZALEAS.—For the best six plants, to Hovey & Co., \$6 00
 For the second best, to Hovey & Co. - - - - 4 00
 CHINESE PRIMROSES.—For the best six plants, to Hovey & Co. 3 00

FRUIT: From W. C. Strong, Hovey's seedling strawberries. From J. Washburn, very handsome specimens of Easter Beurré pears, finely colored and well ripened.

HORTICULTURAL OPERATIONS

FOR APRIL.

FRUIT DEPARTMENT.

GRAPE VINES, in the greenhouse or early vinery, will now be advancing rapidly, and will soon be in full bloom. If they have broken well, the main shoot should have been, before this, carefully tied up to the trellis, and the laterals laid out in regular order, and also loosely tied; bringing such as are too tender now into the proper position when the wood becomes firmer. Syringing should be kept up morning and evening. All the laterals which have advanced more than three eyes beyond the fruit-buds should be topped, and all the superfluous shoots which spring from the base of the spurs should be rubbed off, except such as are wanted to take the place of the old ones. These should also be tied to the trellis, and their points pinched off. Give moderate quantities of air, and shut up rather early in the afternoon; when the vines are in bloom, increase the temperature 5° to 10°, and discontinue syringing, supplying moisture by means of a liberal watering of the walks. Vines in the cold-house will require the same treatment we advised in our last. Vines, in the open air, if not already pruned, should be attended to immediately, and properly tied up to the trellis, or wall. Vines, in pots, in the greenhouse, now in fruit, should be liberally supplied with water.

STRAWBERRY beds should be immediately uncovered, and if the ground is dry, carefully raked, top-dressed, and put in order for the season; if too crowded, let half of them be dug under; and if the soil is poor, top-dress with guano. New beds may be made this month.

GOOSEBERRY AND CURRANT bushes should have their pruning finished this month. New plantations may be made now.

RASPBERRY bushes should be pruned, the soil manured, and carefully dug with a stout fork, so as not to injure the suckers, which take the place of the old ones.

FRUIT TREES of all kinds should now be pruned. Grafting may now be commenced, taking the cherries first, the plums next, and the pears and apples last.

MELONS should now be planted in pots in hot-beds, so as to bring them forward early for turning out into the open ground in June.

FLOWER DEPARTMENT.

CAMELLIAS will now be making their growth, and will require more than the ordinary supplies of water, and liberal syringing of the foliage every other day. Give liquid guano once a week. Inarching may yet be done.

DAHLIAS may be started for a succession, and if potted, they may be brought forward so as to be strong enough to flower in July. Seedlings should be potted off as soon as they have four or five leaves.

TULIP BEDS should be uncovered carefully, and have the surface loosely stirred with a stick, or a trowel, so as not to injure the foliage.

HYACINTH BEDS should also be treated in the same manner as Tulips.

RANUNCULUSES, planted last month, will now be coming up rapidly, and will require to be guarded against severe frosts. Roots may yet be planted.

CARNATIONS AND PICOTEEs in frames, should be well aired in all good weather, and if very strong plants are wanted, they should either be repotted, or turned out into a good prepared bed or border, the last of the month. Seedlings should be pricked out into boxes or pots.

CHRYsanTHEMUMs may be propagated from cuttings the last of the month.

JAPAN LILIES should be repotted, if not already done.

PELARGONIUMs will now be throwing up their flower-buds, and will require to have more liberal supplies of water, and an abundance of air.

PANSIES, in pots, should now be top-dressed with very old manure, and receive liberal supplies of water; they will then produce large and superior flowers. Seedlings should be potted off into pans or boxes.

ROCKET LARKSPUR seed may now be sown in beds in the open ground.

ERICAs should be headed in preparatory to a shift into larger pots, and removal to the open air.

TUBEROSES AND AMARYLLISES should be potted.

GLADIOLUSES may be planted in the open ground the last of the month.

ACHIMENES should be potted off and fresh bulbs put in for a succession.

AZALEAs now beginning to grow, should be more liberally watered. Nip off the tops of all long shoots so as to make them bushy plants.

OXALISES, done flowering, should now be sparingly watered.

HARDY ROSES of all kinds should be now pruned. Moss Roses should be cut back very short.

CACTUSES, now showing their flower buds, should be more liberally watered.

DOUBLE BALSAMS, GERMAN ASTERS, and other showy annuals, should now be sown in pots for early blooming.

HARDY PÆONIES may be divided and reset this month.

HERBACEOUS PLANTS of all kinds may now be transplanted.

FUCHSIAs should be repotted and headed in, so as to make good shaped plants.

STEPHANOTUS FLORIBUNDUS should now be placed in the warmest part of the house, and have more liberal supplies of water.

TREE PÆONIES may be propagated by grafting, or division of the roots.

THE MAGAZINE OF HORTICULTURE.

MAY, 1850.

ORIGINAL COMMUNICATIONS.

ART. I. *Weeping Trees, as Ornaments of Lawns and
Pleasure Grounds.* By the EDITOR.

Few objects in garden scenery are more universally admired, than drooping trees. Indeed, so general has been this love of pensive forms, that art, though in vain, has been resorted to, to possess those of weeping habit. Neither are any more in harmony with the smoothness and verdure of the lawn, or the neatness and high keeping of the pleasure ground. Viewed either as isolated objects, when their weeping habit is displayed to the best advantage, or in combination with groups or masses of other trees, they are equally picturesque and ornamental. We shall not soon forget the peculiar gracefulness and beauty of a weeping beech, which we saw at Dalkeith, during our visit to Edinburgh, and of which we have given a full account, (Vol. XII., p. 207,) or the picturesque form of the weeping ash, at Chatsworth, removed many miles, at a great expense; or even the weeping elm, in the cemetery at Liverpool, where its drooping boughs, and masses of large deep green foliage, made it one of the most interesting and desirable trees.

So great has been the desire to augment the number of weeping trees,—but a few years since, consisting of only the ash, beech, cherry, oak, and a few others,—that nursery-men abroad have made unusual exertions, to select from the *millions* of seedlings which are annually raised, any which have shown a disposition to assume a drooping habit; and when it is recollected, that not more than twenty or thirty

really weeping trees have yet been brought to notice, it will be at once apparent how small is the chance of seedlings sporting into such a form. The only weeping tree yet raised in this country, is a variety of the peach, selected from a bed of seedlings, by Mr. Wm. Reid, nurseryman, of Elizabethtown, N. J. It possesses a very pendant habit, and unless grafted very high, the branches soon trail upon the ground.

The notion has been prevalent, to a great extent, that weeping trees are produced, by inserting the grafts of any kind of tree upside, down; that is, inserting the scion, so that the shoots, when they push, will grow downwards! Indeed, the mode was recommended in one of the horticultural periodicals, last year. It is scarcely worth while to attempt to refute a statement, showing such utter ignorance of all the laws of vegetable growth, as the least reflection would at once convince any intelligent person of its complete absurdity. All weeping trees are natural sports from the normal form, and horticultural art has not yet been able to accomplish such a result.

In the great inquiry for weeping trees, we have thought that we could not occupy a few pages to more advantage than in making our readers acquainted with the limited number that have been introduced to notice. Such a list will enable all who desire to possess such trees, to make their selections more readily, and to choose such as are adapted to particular situations. For cemeteries, all the kinds are admirably suited, being almost as pendent as the willow, and at the same time affording a variety of foliage, different shades of verdure, a pleasing ramification of the spray in winter, and other peculiarities, which render them at all times interesting and beautiful.

The following are twelve of the most popular and well known kinds. Others have been recently brought to notice, but are so rare, that we leave a notice of them to a future time :—

1. **THE LARGER WEEPING ASH.** (*Fraxinus excelsior*, var. *péndula*.) This is one of the oldest varieties of weeping

trees, and was discovered about the middle of the last century, in a field in Cambridgeshire, England; and the original specimen, in 1835, measured six feet in circumference, at one foot from the ground. It was a long time before nurserymen began to propagate it, and the oldest trees in Britain, besides the parent, are supposed to be of about seventy years' growth. It has the same foliage as the common English ash, of which it is a variety, and only differs in its pendulous branches. It forms a perfect drooping tree; and frequently, the shoots of three or four years' growth, grafted ten feet high, touch the ground. On this account, it should always be grafted as high as possible, so that the branches may have room to droop, without trailing upon the earth. This variety is finely adapted for forming arbors; we saw several in our tour in England, the branches and foliage of which were so thick, that they completely screened the trunk from sight. Around the trunk a circular seat was erected, thus forming a perfect arbor. It is very hardy, and of rapid growth.

2. THE GOLD-BARKED WEEPING ASH. (*F. excelsior*, var. *pendula aurea*.) This is in all respects similar to the last named, except that the bark is of a bright golden, or orange yellow, and has a striking appearance, after the leaves have fallen, in winter and spring. It is yet quite rare. It is hardy, and grows rapidly.

3. THE LENTISCUS-LEAVED WEEPING ASH. (*F. lentiscifolia*, var. *pendula*.) This is a more graceful tree than either of the above. The branches are almost as slender as a willow, and the foliage, which is much smaller, renders it a desirable and elegant tree. It is scarcely as hardy as the others, sometimes losing a few of its branches, in severe winters; but its rapid growth soon makes up for the loss. It is yet rare, and but little known. We have two fine specimens of this in our collection, each fifteen feet high, which droop their branches upon the ground.

4. THE WEEPING SCOTCH ELM. (*Ulmus montana*, var. *pendula*.) This is a very ornamental tree. Its foliage is similar to the Scotch elm, of which it is undoubtedly a vari-

ety. The foliage is very thick, deep green, and rich, and the branches, which assume a variety of forms, are frequently as pendulous as the ash. In general, they grow mostly upon one side, in a kind of fan-shape, but frequently forming a regular drooping head. The heavy mass of dark foliage which it always presents to the eye, gives it a very attractive and beautiful appearance. It is a rapid and vigorous growing tree, attaining the height of twenty-five feet in eight or ten years.

5. THE NEW WEEPING ENGLISH ELM. (*U. campestris*, var. *pendula*.) A new and fine variety, introduced to notice, we believe, by Mr. Rivers, nurseryman, of Sawbridgeworth, England. It has a fine pendulous habit, with small foliage, like the common English elm, and branches much more slender than the Scotch.

6. THE SCAMPSTON WEEPING ELM. (*U. glabra*, var. *pendula*.) Another drooping variety of the elm, which is very ornamental, with slender branches, and a deep green foliage. With the two last, it makes a fine variety, where the space will allow the introduction of several kinds.

7. THE WEEPING BEECH. (*Fagus sylvatica*, var. *pendula*.) This forms one of the most picturesque and ornamental of all the weeping trees. The branches naturally incline to one side, and descend almost perpendicularly downward. To show its real character, it should be grafted quite high; it then has an opportunity to make a fine head. Perfectly hardy.

8. THE WEEPING ENGLISH OAK. (*Quercus pedunculata*, var. *pendula*.) Mr. Loudon, in the *Arboretum Britannicum*, speaks of a large specimen of this tree, in Hertfordshire, England, as "perhaps, one of the most extraordinary trees of the oak kind in existence." Its height was seventy-eight feet, in 1835, and the head covered a space of one hundred feet in diameter. Many of the branches were thirty feet long, and no thicker, in any part of that length, than a common wagon rope. The foliage is similar to the parent, and holds its verdure late in the fall. It is a rapid and vigorous grower, and our largest specimen, five years planted, and fifteen feet high, begins to assume its fine drooping habit.

9. THE WEEPING POPLAR, OR ASPEN. (*Pópulus trémula*, var. *péndula*.) An exceedingly rapid growing tree, attaining the height of twenty feet in six or eight years, with drooping branches, and a neat and pretty foliage, attached by flattened stems, so that

—————"when zephyrs wake,
The aspen's trembling leaves must shake."

The continual motion of the leaves, when there is scarcely breeze enough to disturb the surrounding trees, renders this, in addition to its rapid growth, a very distinct variety.

10. THE WEEPING SOPHORA. (*Sophòra japonica*, var. *péndula*.) A very ornamental weeping tree, with smooth, dark green branches, somewhat resembling a laburnum, to which tribe it belongs. It is exceedingly rare, and the only good specimen we have seen in this country, is one in the collection of Messrs. Hogg & Son, Yorkville, N. Y. The branches are very pendulous, and the leaves, which are pinnate, give it a very elegant appearance. It is quite hardy, and grows rapidly in any good soil.

11. THE WEEPING MOUNTAIN ASH. (*Pyrus aucupària*, var. *péndula*.) A new and recently introduced variety, with very pendulous branches, and foliage and fruit like the common English mountain ash. It grows freely, is quite hardy, and although our specimens are yet small, it promises to be a very ornamental drooping tree. It is, we believe, of recent origin in England, or on the Continent, and is but little known.

12. THE WEEPING PEACH. (*Pérsica vulgàris*, var. *péndula*.) This is the singular and elegant variety of the peach, which we have previously alluded to as having been raised from seed, by Mr. W. Reed, of N. J., about six years ago. It has all the drooping character of the ash, with somewhat twisted shoots, and grows mostly to one side, in a kind of fan-shape. It flowers abundantly, and produces an inferior fruit; but when loaded with blossoms, its weeping boughs appear like hanging wreaths of flowers. It is a most valuable acquisition to the list of weeping trees. Grafted ten feet

high, its shoots descend perpendicularly, and soon trail upon the ground.

The weeping cherry, and laburnum, we noticed in the last volume, in our list of select shrubs, (XV., p. 152.) They each form fine ornaments for lawns.

ART. II. *The Red Gilliflower and Cornish Gilliflower Apples.* By the EDITOR.

"I notice, in the last number of the 'Magazine of Horticulture,' that the apple known through Western New York as the *Black Gilliflower*, is described under the name of *Red Gilliflower*, to which the synonyme, *Scalloped Gilliflower*, is added, on the authority of the *American Fruit Culturist*. I enclose two figures, drawn from exact impressions of these two varieties, showing their points of distinction. A. J. Downing, in his work on fruits, places these two varieties together; although both are considerably disseminated, and are known to Charles Downing, of Newburgh, who mentioned to me, some years ago, that he regarded the *Red Gilliflower* as by far the best fruit of the two. There are so many points of difference in them, that scarcely any resemblance is to be found. The outline of the *Red Gilliflower* which I send, was taken from the finest specimen I could obtain, and is not so flat as the majority."

The above communication was received, some time since, from Mr. J. J. Thomas, of New York, author of the *Fruit Culturist*. In our February number, in our article descriptive of select pears, we gave a full account of the *Red Gilliflower*, better, but improperly, known as the *Black Gilliflower*, in some parts of New York; and, as one of the synonymes, we enumerated the *Scalloped Gilliflower*, on the authority of Mr. Thomas, he having placed the latter as a synonyme of the *Red Gilliflower*, as described by him; and, supposing his *Red Gilliflower* to be the same as ours,—for we knew of but one,—without inquiring whether Mr. Thomas had made any

error, we adopted his synonyme. Accidentally and fortunately, by the kindness of our correspondent, C. Goodrich, Esq., of Burlington, Vt., we are in possession of such information as will tend to set the matter right, and correct the very gross error into which Mr. Thomas has fallen, viz.: that of describing, as the Red Gilliflower, one of the oldest English apples, so well known to every pomologist as the *Cornish Gilliflower*; described by every British author on fruits, and figured in Ronald's splendid work on the apple, and the *Pomological Magazine*. Had we supposed that Mr. Thomas had overlooked such a well known English apple, we

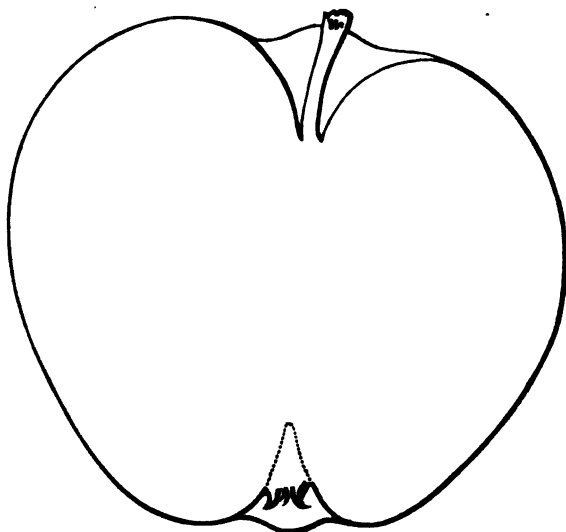


Fig. 10. Red Gilliflower.

should at once have referred his Red Gilliflower to that variety.

As Mr. Thomas correctly states, "there are so many points of difference in them, that scarcely any resemblance is to be found." For, while the Cornish Gilliflower is a greenish apple, striped with light red, and so irregular and strongly ribbed, as to be classed among the Calvilles,—under which name it is cultivated in France,—the Red Gilliflower has a very regular form, and a skin so dark, that it has acquired the name of the Black Gilliflower.

In corroboration of his remarks, Mr. Thomas accompanies his communication with the following descriptions of the two apples, and outline figures of each, which we annex; reproducing the Red Gilliflower, which accompanied our description, for the purpose of comparison:—

“RED GILLIFLOWER.—Syn. Scalloped Gilliflower. Large, flattish conical, often inclining to roundish or ovate conical; very irregular, and strongly ribbed; surface striped with dull, dark red, on a greenish yellow ground, and with a few mi-

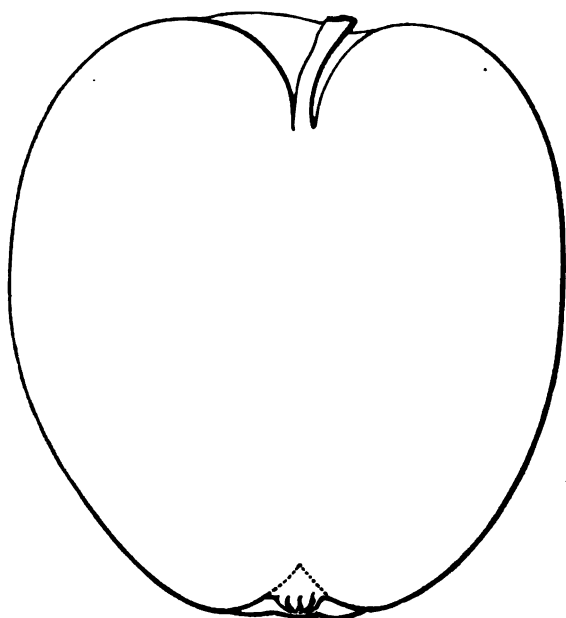


Fig. 11. *Black Gilliflower.*

nute whitish specks upon the surface, which is usually more or less blotched with mildew spots, or scabs; stem short, or one-half to three-fourths of an inch long, set in a cavity of medium depth; calyx of medium depth, in a very irregular, strongly ribbed basin; flesh very fine grained, greenish yellow, with a fine, spicy, sub-acid, first-rate flavor. Fruit often very imperfect, and of diminished size. Tree a moderate bearer; winter.

BLACK GILLIFLOWER.—Rather large, oblong conical, very dark reddish purple in the sun; often light red, with faint approach to yellow, on the deeply shaded side; stem three-fourths of an inch long; segments of the calyx closely pressed together; basin shallow, narrow, and furrowed; flesh yellowish white, with a shade of green; flavor rich, mild, sub-acid, fine; flesh tender, large grained, dry when fully ripe, which is its greatest objection. Tree a free grower, great bearer, fruit always perfectly fair, and, as a long keeper, scarcely inferior to the Roxbury Russet.

The chief points of difference between the two varieties, are, the much lighter color, very irregular and often flattish form, scabby surface, and superior flavor of the Red Gilliflower, as contrasted with the oblong and remarkably smooth and even form, very dark color, inferior flavor, and great productiveness of the Black Gilliflower. If the Red Gilliflower possessed the fair fruit and bearing qualities of the Black, it would rank, in desirable qualities, with the Baldwin, Esopus Spitzenburgh, and Rhode Island Greening. The past season, when nearly all our best sorts were wormy, defective, or small, the Black Gilliflower was, almost uniformly, large, fair, and perfect. It is a fine baking fruit, but as a table variety, is esteemed only by a few persons."

We deem it unnecessary to extend our remarks upon this subject, as, from what we have already said, in connection with what follows by Mr. Goodrich, it will be seen that the Red Gilliflower of Mr. Thomas is a *misnomer*; and the true and only Red Gilliflower, is that originally, we believe, described by Mr. Manning, in the *Magazine of Horticulture*, for 1841, (Vol. VII., p. 49,)—for we cannot find any pomological work which contains any account of it, prior to that date,—and more fully noticed and figured, at the page referred to, in the *Magazine* for February :

Sir,—I notice, in the March number of your Magazine, a description of the Black or Red Gilliflower, by which I suppose the Cornish Gilliflower is not much known in the vicin-

ity of Boston. The Red or Black and Cornish Gilliflower are both common here,—both having been introduced among the first improved varieties,—and old trees of each variety are common. The Cornish Gilliflower is one of the most marked and distinct varieties of apples. Its name and synonymes may be classed as follows :—

CORNISH GILLIFLOWER.—Pomological Magazine, Lindley, Downing.

Cornish Julyflower.—Kenrick, 6th ed.

Scalloped Gilliflower.—Buel, and most American orchards.

Red Gilliflower.—Thomas, 2d ed.

Striped Gilliflower, }
White Gilliflower, } of some American orchards.

The tree is moderately vigorous and healthy ; forms a handsome top ; a constant but rather shy bearer ; better for the amateur's garden, than for market fruit. Fruit of the highest flavor ; in perfection in January, but may be kept until April or May. I send you five specimens. On account of the severe drought, last season, they are about one-third smaller than usual, and not as high flavor, besides being too late in the season.

It was introduced here from England, by way of Canada. Until a few years past, and since there has been a disposition to know the true names of our fruits, it has been uniformly called here, the Scalloped Gilliflower.

Wishing to possess all the Gilliflowers, and while I had an old tree of it in my orchard, I procured, from an adjoining county, the same apple, under the name of the "Striped Gilliflower," and from still another, under the name of the "White Gilliflower."

Judge Buel went from this county to Albany ; he carried many scions from this town, and probably this was among them. There can be no doubt, but that the specimens I send are the true Cornish Gilliflower. Another season, I hope to send you better ones. *Yours truly, C. GOODRICH, Burlington, March, 1850.*

In another letter, Mr. Goodrich writes : "I like what you say about the Red or Black Gilliflower. It is here always fair,

and a great bearer in alternate years, and by many preferred to any other apple,—while by others it is called worthless. Were you not mistaken in saying you had a supply of fruit from Northern New York? That is not a region that exports much fruit. Were they not from Vermont? More than six thousand barrels were sent from this, the smallest county on the lake shore, to Boston and Worcester, and probably from other counties quite as many. The valley of Lake Champlain is, perhaps, more certain of a crop of apples, than any other place in the United States. If you wish, I will give you a short article on the subject, for your magazine." *Yours truly*, C. GOODRICH.

We certainly hope our correspondent will send us the article he alludes to. It would be valuable to all northern cultivators.—*Ed.*

ART. III. *How to Prune the Quince Tree.* By Mr. R. THOMPSON, Superintendent of the Orchard and Kitchen Garden Department of the London Horticultural Society. From the Gardener's Chronicle.

Few fruit trees are more sadly mismanaged and neglected in their cultivation, than the quince. Naturally tenacious of life, and easily kept in tolerable vigor in almost any situation, except one perfectly dry, it is generally considered as a tree which either does not need any great care,—that its fruit, at the best, is of no great value,—or, that it will grow and thrive, without the ordinary labor attendant upon other fruits. Flourishing, to a certain degree, in very wet localities, where other trees would scarcely keep alive, the quince has so long been cultivated in such places, that it has almost become a "fixed fact," to use a modern expression, that it will not succeed elsewhere; and the first question generally asked, by those who are purchasing quince trees,

is, "Can they be grown in ordinary garden soil?" "Don't they require a very damp locality?" "I have always noticed them," says one, "growing in very low ground, and apprehended that they could only be raised in gardens affording such situations." But without detaining the cultivator with general remarks on the cultivation of the quince, here,—merely remarking, that it will grow in *any ordinary garden soil*, well manured, preferring one moderately dry to one always very damp,—we proceed to notice Mr. Thompson's article, which follows.

Even where the quince grows freely, and produces heavy crops, it is rare that a regular, well formed *tree* is seen. In general, they have the form of huge bushes, with as little comeliness, in this respect, as an ordinary garden shrub; often with three or four stems springing directly from the ground, and a head as confused, in its twisted shoots and cross branches, as is often seen in any uncultivated and neglected tree. A quince with a straight, clean stem, of three feet in height, branching into a round, well formed head, is what we, in our little experience, have not often seen.

That the quince tree may, however, be made to assume a somewhat symmetrical form, is well known; and Mr. Thompson has plainly shown, in his article, how this is to be done. If his advice is followed, we shall soon see but few of the shapeless trees which disfigure too many gardens, and which, in truth, should consign them, where they are too often found, by the side of fences and walls, choked up with grass and weeds, and bearing a half crop of small and often knurly fruit:—

PRUNING THE QUINCE TREE. On referring to the accompanying engraving, it may be remarked that, in the preceding year, a blossom-bud, similar to those marked *a a*, and sessile, like them, was situated at 1. In the course of last season, that bud pushed a sort of shoot, furnished with leaves, and bearing at its extremity a single blossom, producing one fruit, which, at its maturity, had either been pulled, or had

dropped off, leaving a scar at *c*. The portion between 1 and *c* may be termed a branch, as it was furnished with leaves,

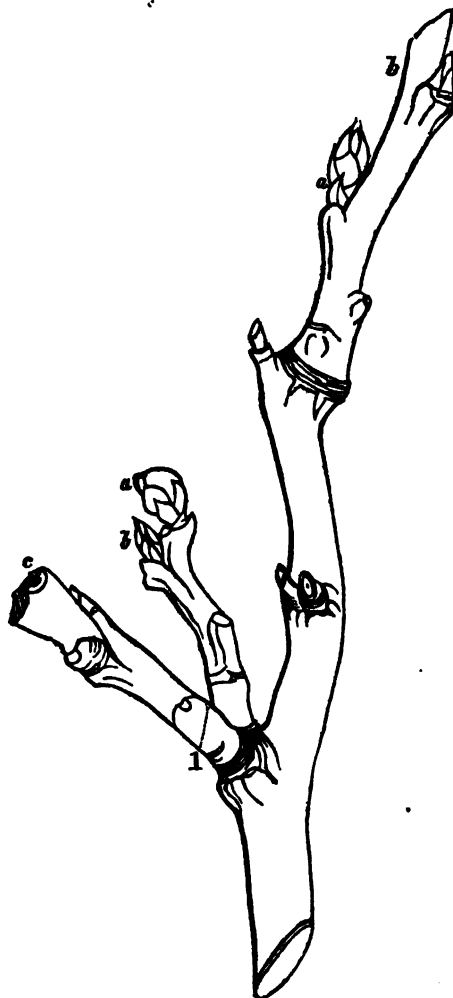


Fig. 12. The Quince Tree.

a a, Blossom-buds ; *b b*, Wood-buds ; *c*, The place where fruit was attached last season.

and buds appear that were formed in the axils of those leaves ; but still, it is an imperfect branch, inasmuch as it has no ter-

minal bud for its prolongation, the place of such bud having been occupied by the fruit. As this portion is only furnished with weak buds, it is not necessary to be retained, and should be cut off at 1.

In rearing the quince tree, pruning is necessary, in order to strengthen the stem; for otherwise, it is very apt to be twisted or bent over by the winds. Presuming the tree has been planted in rich, rather moist soil, it will send up a long but flexible shoot; and if from this all laterals are pruned closely off, with the view of making a clean stem, the latter will be rendered much weaker than it would be if left to nature. The plant should be cut back to within, say eighteen inches of the ground, or more or less, according to its strength. Generally, three buds next the section will push in the following season; select the shoot best adapted for continuing the stem, and train it as upright as possible. Shorten this at the winter pruning, and spur in the laterals. In every successive year, a well managed young tree, of any kind, ought to have an increased quantity of foliage; certainly not by any avoidable means, should it be reduced to a condition under which it could only produce a decreased quantity. But such condition may be guarded against, and yet the stem can be cleared of such lateral shoots as may have been temporarily left to strengthen it and the roots, if their removal be gradually effected, of course from below upwards. A portion should be removed at every winter pruning, but the quantity should be more than compensated by that of the young shoots produced above, in the preceding summer. By attending to this, and annually shortening the leading shoot, a stout stem, requiring no stake for support, will be the result. When the stem has attained the desired height, the formation of the head should be commenced. Three shoots, cut back at least to half their length, will afford two shoots each, in the following season; and thus, six principal branches will be originated. Afterwards, very little pruning will be required. It will chiefly consist in early checking over-luxuriant upstarts, and thinning out cross branches.

ART. IV. *The Culture of the Camellia.* By MR. R. ERRINGTON. From Paxton's *Magazine of Botany*.

IN our volume for 1848, we commenced a series of articles on the cultivation of the camellia, and presented our readers with the results of our experience in the growth of this magnificent flower, in two papers in that volume, (XIV., pp. 301 and 351.) The article was concluded, as regards the cultivation of the plants; but two of the subjects we have yet to prepare, in the course of this volume. These are, the growth of new varieties from seeds, and a description of some of the most select varieties.

Having produced a great number of seedlings,—some of them fully equal to any that have yet been raised,—we were anxious to ascertain the results of further experience, in order that we might, if possible, give some facts, which might lead to more certain success in the growth of seedlings. This information we have much augmented, during the last two years, and we shall therefore complete our article, in the course of the summer. In the mean time, as a great many of our readers, of the present volume, will not perhaps see our articles above alluded to, we can refer them to Mr. Errington's article, as conveying correct information upon the treatment of the camellia, and if his advice is followed, the amateur need have no fear of the best results.

Mr. Errington's division of the subject is a very judicious one, and the cultivator of fine camellias will at once appreciate the truth of his remarks. To amateurs, the particularities of treatment will be especially welcome, as those little points, so generally overlooked by writers on such subjects, are noticed and commented upon in full.

Mr. Errington's article leaves off just where ours will begin; he has said nothing of the production of new varieties from seed, or given any list of the most desirable varieties, both of which we shall supply, in a future number:—

“Who does not admire a well grown and well blossomed camellia, with its glossy, dark green leaves, and bold petalled, exuberant looking flowers?”

There are peculiarities about this charming plant, which mark it out above most other flowers ; and it seems to bid fair to be as enduring, as to its popularity, as the geranium or the rose.

For although our continental neighbors have poured their thousands and tens of thousands of camellias into the British market ; and although the camellia has been planted against walls out of doors, in all quarters, made to form extensive undergrowths in woods and plantations, and even bedecked the cobbler's stall, yet nobody thinks a well bloomed camellia commonplace in character, or beneath their notice.

For enlivening the dreary winter months, we know nothing equal to it, provided its culture for that period is done justice to. How to do that, according to my opinion, shall form the groundwork of my present observations.

In order to render my remarks familiar to the amateur, to whom principally I opine they will be useful, I must first premise that, for practical purposes, the culture of the camellia, a twelvemonth round, divides itself into five periods ; each of which, under a systematic course of culture, should, according to my notions, be recognized by all good cultivators as distinct in character ; although it may be, some of the features of management, at first sight, appear identical with those of another section.

The five periods, then, I would entitle as follows :—

- 1st period, Forcing into wood.
- 2d do. Formation of flower-buds.
- 3d do. Maturation of flower-buds.
- 4th do. Development of blossoms:
- 5th do. Rest, necessary to the first period.

FIRST PERIOD.—FORCING INTO WOOD.

It was long before the true bearing of the policy, as to its connection with successful winter flowering, was understood or appreciated. Indeed, I am not assured that all our camellia growers yet thoroughly recognize its importance. Be that as it may, with me it is the 'keystone,' and I think that I can show a winter-house of camellias, from this period until

March, against any competitor ; not for extent, certainly, but for glossy, dark luxuriance, and the vast amount of well fed blossom buds, which appear, at first sight, like a profuse crop of nuts ; the leaves, too, being so very dark, as fairly to shame the most healthy Portugal laurel. I name this, merely to induce the reader to place some confidence in the mode of culture I am about to explain.

For the successful culture of the camellia for winter flowering, it is absolutely essential that this forcing into wood take place very early in the spring. It is obvious, therefore, that camellias blossoming in April or May, are not eligible ; such, however, are needed in some establishments, but our business lies with the winter flowerers ; nevertheless, the same principles will apply to all seasons, a slight allowance being made for the intensity of light peculiar to the summer, of which more in our concluding remarks.

If I were required to select plants, for the future winter's flowering, soon after Christmas, I should take those which had blossomed in the course of December ; this is a narrow footing, but I give it in the way of illustration. Such, then, having ceased blossoming, or nearly so, I should remove from the ordinary conservatory or sitting-room, to a cool pit or frame, or to the shady and cool part of an ordinary greenhouse. And why ? There is always a trifling amount of exhaustion, consequent on the free blooming of the camellia ; but being a willing plant, and it being nature's ordination, as it would seem, that the wood-bud for the succeeding year should commence its development close on the heels of the flowering process, I endeavor to arrest this excitable character, in order to bring up all arrears of root action ; for it must be understood, that although enough of reciprocal action has taken place between the leaf and the root, to enable the young bud to commence development, yet, in general, the additional energies imparted by a few weeks' partial dormancy, are of immense benefit. This is a course I have practised for years, and I always find it forces more buds into growth, than when hurried into that stage immediately on the heels of the flowering.

I am generally enabled to retard the growing principle, by such means, for nearly a month ; but a very low temperature becomes necessary,—35° to 40° is amply sufficient.

I have now been unwittingly drawn into a discussion of the fifth period, but will again revert to the first period, the forcing into wood.

What pruning is necessary, should be performed the moment they have ceased flowering ; or, indeed, somewhat before, if possible. The best situation to commence the growing process in, would perhaps be a pit, containing a small, yet enduring bottom heat, of about 75° ; not, however, with the idea of plunging them, for I could never discover much lasting benefit to the camellia, by this course ; what may be gained by a sudden impulse, is more than counteracted by the derangement of the drainage through the earth-worm ; for few plants suffer more from a derangement of the drainage than the camellia, especially if liquid manure be frequently used. ♦

It has not, however, been my practice to use a pit for this purpose : I force the whole of my trees at once, in the house appropriated to them, and in which they have both blossomed and rested. I merely cut off the hot water to effect the resting period, and turn it on in full power when the forcing commences.

A temperature ranging from 60° to 70° is, I consider, the most congenial to the forcing process : they will, however, do very well with a temperature of 55° to 60°, provided little air is given, and plenty of atmospheric moisture is maintained. To effect this, I use the syringe freely, at least twice a day : indeed, when the wood-buds are swelling, I keep the wood almost constantly moist.

Shading is particularly necessary, during this period ; the young buds of the camellia are exceedingly delicate, whilst unfolding their tender foliage. I employ a thin canvas, which admits a flickering light ; it is probable, however, that our new rough plate glass will supersede, in a short period, the necessity for canvas.

Watering, also, is an essential item. The root should be

well fed, in order to force as many buds as possible to develop themselves. I use liquid manure very frequently, during this stage. I will describe the kind I use, towards the conclusion of this paper.

SECOND PERIOD.—FORMATION OF FLOWER-BUDS.

Now comes an important period, indeed, in the earlier stages of which, much nicety of management becomes requisite.

We all know that, under ordinary circumstances, the camellia,—especially if “pot-bound,”—forms its buds readily enough; but how often do we hear complaints of such casting their buds: and why? simply because they are in a better condition to form buds, than to maintain them afterwards. This often happens with the amateur, yet seldom with the nurseryman; and this, because the former is not aware how much moisture is at times necessary to the camellia; and if pot-bound, how often the interior of the ball, wedged up with hundreds of fibres, can scarcely be penetrated, without steeping it occasionally, especially if, through any neglect of watering, the ball has become thoroughly dry. This, then, amongst other circumstances, shows that a systematic course is necessary, and that directions for the amateur should be very explicit; so much so, indeed, that old practitioners will be apt to consider them tedious.

It must not be thought, that in thus noticing, in a digressive way, watering, this period in camellia culture requires more water than any other; I name it here, to pave the way to suggestions for a more liberal amount of pot-room, for such is quite compatible with free flowering, provided the cultivator exercises that control over his plants, during the latter part of this stage, which a niggardly application of water will furnish.

In the earlier part of this stage, a slight decline in the temperature may take place; 60° will amply suffice; more solar heat, however, will frequently compel the cultivation to stand at a higher pitch. Shading must be continued as before, and the only difference requisite is a free circulation of air, night as well as day, and a gradual diminishing of the

amount of water, until the incipient blossom-bud attains a decided character, which it will do in four or five weeks. It may here be understood that I intend a temporary check, yet not such a check as may interfere with the health of the plant, or the size of its foliage; such a check may be decried, by minds unprepared for, and indisposed to, a nicety in culture: I, however, advise no more than I have proved, for many years.

A too severe check would materially impair the size of the foliage; I have, however, constantly found, that the most luxuriant foliage may be obtained, and blossom-buds as well, provided the root is in a sound and healthy condition: without this,—as, indeed, with all other modes of culture,—all niceties of atmospheric management must fall to the ground. As Mr. Barnes once observed, in regard to the culture of the pine, the main point is, to cultivate them with plenty of live roots.

I would here advert, however, to the importance of supplying abundance of atmospheric moisture, whilst the temporary check is going on; this it is which prevents loss of size in the foliage, and I may add, loss of color also.

I may here observe, that this check, through a very moderate allowance of water, is carried so far with a somewhat gross subject, as to permit the plant to flag a little, occasionally. When the roots are healthy, I find no injurious consequences result from it: I may observe, however, that this is not permitted, until the leaves have attained nearly, or quite, their full size.

Liquid manure is, of course, entirely withheld, during this stage, or period; and after the checking system has been persisted in for a few weeks, most of the shoots will begin to show twin buds at their terminal points, or even three or four, as the case may be. Nothing more is necessary, than to be very cautious in the return to a liberal watering, of which I shall speak in the next period. It may here be observed, that before a more liberal course of treatment is had recourse to, most of the young shoots should show the twin buds before alluded to, one of which is the true terminal

wood-bud, and the other an incipient blossom-bud, of which more will subsequently be developed, as the young wood becomes mature.

THIRD PERIOD.—MATURATION OF FLOWER-BUDS.

The horticultural tyro must not fancy, that the periods, here alluded to, are as definitely detached as the divisions of my remarks. As may be inferred, they gradually merge into each other; this period, therefore, may be characterized as fairly commencing, when the flower-buds are as large as peas; then it is my practice to commence a course of liquid manure. The characters of this will be hereafter described.

At the commencement of this stage, a more liberal amount of watering may be commenced, observing to apportion its amount according to the character of growth; those which are thoroughly set for blossom receiving a full watering, and those of a gross and undecided habit receiving it in a limited way. Indeed, check, through partial drought, must entirely cease from this period, for if the plants commence their forcing process in February or March,—which they ought to do, if possible,—the period I now describe will be about the middle of May, by which time they will receive much natural heat, together with more light, and at times a greater amount of aridity in the atmosphere: water then must be liberally supplied.

This course pursued for a few weeks, still contriving to shade with thin canvas, and to syringe frequently, the buds will enlarge with great freedom; and with their enlargement the leaves will be perceived to increase, both in size and thickness, gradually exchanging their pallid green for a dark and glossy character; and if the root action is good, and the drainage perfect, the benefits of liquid manure will be speedily manifest. Towards the early part of July, the buds will be three parts grown, and here I would advocate the turning the plants out of doors for a few weeks.

There is no absolute necessity for this course, as I have proved; kept in altogether, however, they are apt to become infested with the scale, and I have now found that

turning them out for awhile is inimical to the spread of these pests, which will always be found to infest forced camellias more than those which are treated in the ordinary way.

I have always deemed it necessary to use a canvas screen, during bright sunshine, for two or three weeks after their first exposure out-doors. Towards the early part of August, it may safely be withdrawn altogether, and now they will require more copious waterings still, with the liquid manure; they must not be suffered to get dry at the root for an hour, if possible. This course pursued brings us to the

FOURTH PERIOD.—THE DEVELOPMENT OF THE BLOSSOMS.

The commencement of this period may be marked by their re-introduction to the house, and my practice is, to get them in by the middle of September.

The house being duly cleaned and prepared, and the plants or trees housed, the course henceforward is very simple.

No shading will be requisite, provided the plants are in a sound and healthy condition; regular waterings of liquid manure must be followed up, and a thinning out of the buds must take place; indeed, the thinning out had better be performed before bringing them into the house, if possible. I do not like thinning them, until the buds are half grown; they are then easily singled out, and if the practice previously laid down is carefully carried out, a considerable number may be parted with.

In the first place, there is generally a cluster of buds around each leading shoot; sometimes a complete bunch at the terminal point, I generally reduce the point to a couple, at most, and as my plants generally form buds in the cavity of the next two or three leaves downwards, I reserve, on the average, from four to five buds on each shoot; those shoots, however, of a weaker character, and lower down the stem, I leave, according to their strength.

At this very period, if there be any scaly insects on the plants, I commence a syringing process, which will soon destroy them, of which more under the head "Insects." Inde-

pendently of this, however, provided there be no insects, the ordinary syringing is followed up, and a very liberal course of ventilation carried out.

It will be understood, that I have been describing a course of practice pursued in order to have forced camellias; that is to say, camellias flowering all through the winter. Perhaps the term "forced camellias" is not strictly applicable; it will, nevertheless, serve to convey an idea of what I mean. By the practice here described, they will commence flowering in November, and continue blooming until the following March.

Now, to ladies and gentlemen who spend their time in the country, as many do, from the autumn until the "London season," the gratification of such a fine winter-house of camellias is very considerable; for of what benefit is it, in such cases, to have them blooming in April and May, which is the most usual period for those which are not forced.

To proceed. I do not apply any fire-heat until frosts occur, and then with great moderation indeed. The buds will continue swelling, and unfold, when ripe, in the most gradual way; and, indeed, on this gradual unfolding much of their size depends. As soon as they commence blossoming, all syringing must immediately cease; still, however a reasonable amount of atmospheric moisture must be kept afloat, yet by no means allowed to condense on the leaves.

Now, this is a point not easily accomplished, when the dark and frosty days and nights of December arrive: if moisture exist in the atmosphere, and fires are used, the vapor will ascend, and in ascending, come in contact with the glass roof, and this, at the low temperature consequent on a sharp frost outside, will condense, and fall in drip on the plants.

What then is to be done? I will describe the practice by which I generally avoid the drip.

In the first place, as to moisture. All watering is performed, of course, rather early in the morning, say by ten o'clock. I need scarcely observe, that, under the circumstances, no attempt is made to raise atmospheric moisture;

the most free and ample ventilation which the weather will permit is used night and day, and just as much fire applied as will sustain a temperature of about 50° max. by day, and 40° to 45° by night.

The maintenance of so moderate an amount of artificial heat, requires very little fuel, and admits of a liberal ventilation, even at night. But this is not all; in extreme cases, I have applied a covering of some kind to the roof, which course, indeed, combined with the precautions before named, is, under the most trying circumstances, a guarantee against drip; which, I need scarcely observe, is fatal to the beauty of the camellia, causing spots all over the blossoms, and indeed, inducing premature decay.

It is well known, that a portion of the atmosphere's moisture in the interior,—albeit ample ventilation is provided,—becomes, in extreme weather, frozen on the inside of the glass; that is to say, when no night covering is used. With a covering, however, and a free circulation of air, the vapor is dispersed as it arises, passing off, of course, at the back ventilators.

I have little more to say about the development of the blossom; I may merely observe, that, to produce fine flowers, a temperature averaging 55° is requisite; but, nevertheless, it becomes necessary to fall back, in extreme cases, to the temperature before quoted; for it is not merely the development of the flowers, but their long continuance in blossom, which must engage the attention of the cultivator.

Having now discussed all the periods with which I set out, I may now beg permission to make a few concluding remarks on some general principles, which are applicable, in a greater or less degree, to the camellia in all stages, and under most circumstances.

SOILS AND POTTING. It may not be generally known, that the almost continual use of liquid manure demands even a greater amount of, or more perfect drainage, than when clear water is used. Good drainage, indeed, under all circumstances, is one of the great essentials in the culture of the camellia; and when the soil is rightly constituted, the water will pass

through almost the moment it is poured upon it. When the water is observed to hang long on the surface of the pot, the plant should immediately be turned out and examined, and if it does not require shifting, the crocks, or other drainage materials must be readjusted.

The common earth-worm is a great infester of the camellia, and the damage they cause in the drainage is enormous.

I never set my camellias on the ordinary ground,—always on a body of coal ashes ; this will keep out the worms.

A little clear lime water may be used, if worms are suspected, and the worms must be gathered up as they turn out of the soil.

The compost best suited to this plant, in my opinion, is about three parts of a fibrous mellow loam, rather inclined to adhesiveness, and two parts fibrous heath soil, which has become a sound turf through age.

These should have been procured twelve months or more, and should be well chopped with a sharp spade, but not riddled. My practice is, to add a good sprinkling of finely crushed charcoal, and of coarse sand ; the latter, however, depends on the amount of tenacity in the loam, and the character of the heath soil. After carefully placing the crocks over the bottom, so as to leave three or four bold apertures, or outlets, I place a pounded mixture (from which all mere dust has been ejected) of broken crocks and charcoal ; on this a thin layer of new sphagnum, and on this a little fibrous loam, from which nearly all the mere soil is beaten out. The ball being placed, lumps of fibrous loam and peaty material are wedged in all round, at about equal distances ; then a sprinkling of the finer compost, well shaken in ; then more lumps wedged round ; and, finally, two or three inches of the general compost, the latter well pressed down,—being used in a dryish state. I form the surface into a concave form, in order to coax the water, for a while, through the body of the ball of earth.

It may here be observed, that they should always be in a moist state when shifted ; if any pot-bound plants, with hard balls, appear dry, the only course is to plunge them over

head in water, for half an hour ; after they are taken out, however, they should remain in their pot for at least twenty-four hours before shifting, to drain away superfluous water.

Much difference of opinion exists, as to the best time for shifting ; one party shifting in the rest season, another after the plants have made their annual growth ; the latter is my practice, but many good cultivators pursue the other course. Indeed, it is not very material, provided the subject has a sound ball and good roots, and that the subsequent management is good.

LIQUID MANURE. This I consider a most important affair ; not but that fine camellias may be grown without it, but much finer with. By its use, the flowers may be much increased in size, and the foliage rendered much more dark and glossy, than without it.

Many are the modes of making this liquid. I will, however, describe mine, which I use for all purposes, for the sake of simplicity, and, I may add, at nearly all periods ; premising first, that I never use it unless clear, and always highly diluted.

All urinary matters are saved, and exposed to the air for nearly a month at a time ; they are then poured into a huge stone cistern, placed side by side with a vessel for soot-water. When a "brewing" takes place, the cistern is filled one-third with clear water,—generally warm, from hot water pipes contiguous. Into this, Peruvian guano, at the rate of at least four ounces to a gallon, is stirred, until the guano is dissolved. One-third more of the cistern is now filled with the urinary matters, and the remaining third is filled up with clarified soot-water, from the adjoining vessel.

The soot-water is previously prepared, by blending as much soot with water as it will carry : it requires well mixing, and after settling a day or so, is skimmed, generally a second time.

This, of course, constitutes a highly concentrated liquid manure, so powerful, that no plant would bear its application undiluted. I, however, dilute it exceedingly, for I seldom use more than one pint to three gallons of clear water ; our large water-pots are about this measure, I believe.

I may here advert to the simplicity of its application. A large water-pot full of this liquid manure is always kept behind the camellia house, outside, of course. In watering, we draw water from a tap at the back of the house, inside ; this tap receives its water from a hydraulic ram, and the water-pot of liquid manure being set beside the tap during the watering, the operator, after nearly filling his pot at the tap, pours about a pint of the powerful fluid into it. A couple of pots-full will, in general, water the whole house, which contains nearly a hundred plants.

I have, I fear, been explicit to tediousness about the liquid manure ; my object was, however, to prevent, if possible, any misconception, as liquid manures have, I fear, hitherto been prejudiced by thoughtless and unskilful applications.

As Dr. Lindley recently observed, in his valuable paper, "weak, clear, and often," should be the maxim ; indeed, it is not quite clear to me, but we all use it too strong, even thus diluted.

INSECTS. I must now draw my observations to a close, by a few remarks on the insects which most infest the camellia ; these are, as far as my experience goes, the scaly insect, and the ordinary aphides.

I before alluded to the application of soft-soap water, for the extirpation of the scaly insect ; my mode of application is as follows :—

Soft-soap is beat up in warm water, after the rate of two ounces to a gallon of water ; a vessel containing such mixture is kept at hand, during the period of the formation of the bud ; that is to say, from the time the flower-buds are first formed, until they are nearly as large as peas.

I before observed, that regular syringings would be necessary ; instead, then, of syringing twice a day with clear water, I use this mixture, and after a week or two of this treatment, the scale will have withered, or disappeared.

For the ordinary aphides, of course, fumigation is had recourse to : the fly generally makes its appearance whilst the young shoots are extending, and the operation had better be gentle, and repeated two evenings in succession.

In conclusion, I beg to say, that I am perfectly aware that good camellia culture is carried out by plans somewhat different from the practice here detailed. The same, however, may be said of the culture of most other tribes of plants, and although I do not by any means arrogate to myself the only good practice in this respect, I may add, that the course here laid down will flower the camellia, during the dull winter months, in high perfection.

ART. V. *Floricultural and Botanical Notices of New and Beautiful Plants : with descriptions of those more recently introduced to, or originated in, American Gardens.*

FORSYTHIA VIRIDISSIMA. This new and beautiful shrub, introduced by Mr. Fortune, from China, and fully described in our volume for 1847, (XIII, p. 501,) has stood out the past winter without the least injury, and is now swelling its buds in spite of the untoward weather at this late season, (April 16.) In New York and Philadelphia, the previous years' experience proved it to be hardy in those localities, but as many trees and shrubs suffer no injury by the severity of the winters there, which nearly or quite perish in the latitude of Boston, we are glad to announce the perfect hardiness of the Forsythia in our climate.

CEPHALOTA'XUS FORTU'NI. This is another yew-like evergreen tree, sent here by Mr. Fortune, during his present visit to China. It is said to be one of the most interesting plants lately introduced. It is perfectly hardy in England, and particularly adapted for the arboretum. It is stated by Mr. Fortune, who found it about two hundred miles north of Shang-see, to grow to a height of from forty to fifty feet; but as there is no well grown plant of it in Britain, but little more can be said of the tree. It is, however, described as being probably of a spreading or drooping habit, with distichous alternate or opposite leaves, about four inches long, and of a linear tapering form. The male capsules of flowers appear at the axils of the leaves. They are of globular form,

and about the size of a small pea, consisting of several imbricated roundish scales, of a brownish and yellow color. A plant in the Bagshot nursery, (near London) stood in the open air the last winter, without being in the least injured. It increases readily from cuttings, and will undoubtedly soon become common. The seeds were sent by Mr. Fortune to Mr. Standish, nurseryman of Bagshot, who possesses the whole stock.

CRYPTOME'RIA JAPONICA. A fine plant of this new cedar, in our collection, about seven feet high, growing in a large pot in the green house, is now showing its cones, and will probably produce perfect seeds. Owing to its rarity and high price, we have not yet ventured to turn our plant into the open ground, though we do not doubt it will prove quite hardy. The peculiarity of bearing its seeds so young will soon make it more abundant and attainable at a lower price.

NEW AND BEAUTIFUL CACTI FROM NEW MEXICO. We have been fortunate in becoming the possessors of upwards of twenty entirely new species of Cacti, from New Mexico, obtained by Dr. Baker, in his journey across that country as surgeon, attached to the army for establishing military posts. Some of the Echinocacti are said to produce flowers as large and brilliant colored as the pæony: others are particularly interesting for the singular formation of their spines, their color, shape, length, &c.; a few Mammillarias are curious from their exceedingly dwarf habit. We hope, ere long, to give some account of the precise locality where they were obtained from Dr. Baker himself: they will undoubtedly prove to be exceedingly hardy, and probably capable of cultivation in a very cool temperature, as Dr. Baker informs us that the company to which he was attached was overtaken by a most furious "Norther," which lasted upwards of forty-eight hours, during which time the snow fell to the depth of six inches. The Cacti were found at a very great elevation.

YELLOW CAMELLIA. Letters have recently been received from Mr. Fortune, announcing the unexpected discovery of a real **YELLOW CAMELLIA!** It proves to be one of the Anemone flowered tribe, the exterior petals being French white, and the central ones of a rich *primrose yellow*. He

found it in blossom in a nursery garden, in one of the towns in the north of China, which he had visited in his search after tea-plants. This is gratifying intelligence to lovers of the Camellia; for with such a variety for one of the parents, our amateur cultivators or nurserymen, with the same success which has rewarded their endeavors to improve the Camellia, would soon have yellow flowering varieties, as *perfect in form* as the double white. It has long been supposed that the Chinese possessed both yellow pæonies and camellias: a year or two since the yellow pæony was introduced to Europe, and this is now about to be followed by a *real* yellow Camellia. A few more such acquisitions as those which have been made by Mr. Fortune, in his two visits to China, would render his labors as valuable to the horticultural world, as those of Dr. Siebold to Japan, or Douglas to America.

NEW VERBENAS. Cultivators of this beautiful family have already seen the announcement of the new Verbenas, viz.: Robinson's Defiance, Anacreon, Satellite, and Rosy Morn, all English seedlings: in addition to these, a fine striped seedling has been produced by Messrs. Briell, of L. I.: and the following, of most remarkable beauty, we have now in bloom brought from Paris, by an amateur, last autumn, viz.; St. Margaret, Iphigene, and Reine de Jour. We shall fully describe them in our next number.

SEEDLING CAMELLIAS. Our collections of Camellias are likely soon to be augmented by some remarkably fine seedlings, of American origin. In addition to upwards of a dozen superior *perfectly double* varieties which we have produced, and which have flowered the last three years, several splendid seedlings have been raised by other cultivators of this superb flower. Mr. John Feast, of Baltimore, informs us, that "he hopes to show us before long some seedling camellias that are worth having: three have already flowered and more buds to open, descriptions of which he will give us hereafter." This was under date of February 8th, but we presume the difficulty and uncertainty of sending flowers so far at that cold season, prevented him from doing as he had intended. We trust, however, that Mr. Feast will not omit to send a correct description of all his fine seedlings.

Mr. Becar of Brooklyn, N. Y., has also raised three or four fine camellias: and Mr. Hicks, of the same city, one of great beauty. Mr. Dunlap, of New York city, has produced a superb white, which is now offered for sale: we have not seen it, but understand it is a great acquisition. With so large a number produced within the last four or five years, what may we not anticipate for the future, when a much greater number of seedlings will be annually raised!

CAPE GLADIOLI. Mr. J. Feast, of Baltimore, sent us, some time since, "a spike of flowers of a bulbous plant, which he received from the Cape of Good Hope; it grows about three feet high, and emits a very pleasant odor at night. As a flowering plant he prizes it highly, on account of the abundance of blossoms which it produces during the latter part of winter. The name he has not been able to ascertain. *Gladiolus tristis* of the *Encyclopædia of Plants* does not grow half as high." We suspect, however, that the species is the *G. tristis*; as the specimens corresponded precisely with the figure in the *Botanical Magazine*. It is free flowering, and a desirable winter bulb.

NEW PYRAMIDAL GERMAN ASTERS. The Pyramidal German Asters, are of recent introduction to our gardens, and are a great addition to this showy and beautiful class of annuals. Their flowers are equally as double and well formed as the old kind, but instead of branching off at right angles like those, the lateral stems are quite erect, and when in full bloom the plants form regular pyramids, or *plumes* of flowers, a single one, cut off at the root, being in itself a perfect bouquet. The variety of colors is nearly as great as the old sort, and no flower garden can be complete without a bed of this new and splendid kind.

113. *DRYMONIA CRISTATA* Miq. CRESTED-CALYX DRYMONIA.
(*Gesneriaceæ*.) Guinea.

A hot house plant; growing one foot high; with straw-colored flowers; appearing in summer; cultivated in peat and leaf mould; increased by cuttings. *Flore des Serres*, 1848. Pl. 390.

A very pretty gesneraceous plant, with thick, downy leaves, of dwarfish habit, throwing out from the main stem numerous, pendant laterals, and producing from the axils of the leaves, numerous delicate straw colored blossoms, some-

what resembling an achimenes, and blooming at the same season. It will probably succeed with nearly the same treatment as gesnerias, and will form an interesting addition to our summer blooming plants. (*Flore des Serres*, September.)

D. punctata is now just coming into bloom in our collection, and its neat straw colored flowers, spotted with brown, render it a pretty ornament of the warm greenhouse.

114. *EPISCIA BICOLOR* Hook. TWO-COLORED EPISCIA.
(*Gesneriaceæ*.) New Grenada.

A greenhouse plant; growing six inches high; with white and violet flowers; appearing in summer; cultivated in loam, peat and sand; increased by offsets. *Flore des Serres*. 1848. pl. 398.

"A pretty addition to the family of gesneraceous plants, which incontestably contribute so much to the decoration of our greenhouses. Its ample velvety foliage, laid open to the sun, and its innumerable white flowers, bordered with soft violet, have a charming effect." It is quite unlike any of our present known gesneraceous plants: and its introduction to our gardens will be hailed with pleasure by every lover of plants. It is a native of New Grenada, and was sent to Kew by Mr. Purdie, collector for the royal botanic garden. Its treatment is the same as the Achimenes and Gloxinias, and it is increased in the same manner. (*Flore des Serres*, October.)

115. *HØYA BE'LLA* Hook. ELEGANT HØYA. (*Asclepiadaceæ*.) Java.

A hot house plant; growing four feet high; with white and crimson flowers; appearing in spring; cultivated in leaf mould, loam, and sand; increased by cuttings. *Flore des Serres*. 1848. pl. 399.

Imagine to yourself a neat shrubby plant, with fleshy leaves of the size of the broad-leaved myrtle, and quite as deep green and glossy: clothe this with clusters of our old and well known wax plant (*Høya carnosa*) and you have the *Høya bella*—saving that the flowers have a bright crimson star in the centre, which gives it a brilliancy at once unique and beautiful. It is one of the finest things that has been recently introduced. Dr. Hooker has glowingly described its flowers, as "resembling amethyst set in frosted silver." Every body admires the wax-plant, so called, but its long rambling shoots, and its dingy yellow foliage, render it at-

tractive only when in bloom. *H. bélla*, on the contrary, has a shrubby habit, and deep green foliage, and even when out of flower it must be a neat plant. It requires a warmer situation than the *Hôya carnôsa*, and a light soil, composed of leaf mould, peat, and sand. (*Flore des Serres*, October.)

116. *SYPHOCA'MPYLUS GLANDULO'SUS* Hook. GLANDULOUS LEAVED SYPHOCAMPYLUS. (*Lobeliaceæ*.) New Grenada.

A greenhouse plant; growing two feet high; with crimson flowers; appearing in spring; cultivated in loam, leaf mould and sand; increased by cuttings. *Flore des Serres*. 1848. Pl. 401.

"A beautiful carriage, ample foliage, and large rose colored flowers distinguish this plant, and recommend its addition to all choice collections." It is of easy cultivation. Turn the plants out into the open ground, in a good soil, in June, pot them in September, and place in a warm greenhouse, where they will bloom all the spring. (*Flore des Serres*, October.)

117. *CLE'MATIS INDIVI'SA LOBA'TA* Hook. LOBED-LEAVED CLEMATIS. (*Ranunculaceæ*.) New Zealand.

A climbing greenhouse plant; growing ten feet high; with white flowers; appearing in summer; cultivated in good rich soil; increased by cuttings. *Flore des Serres*. 1848. Pl. 402.

An elegant greenhouse clematis, with the habit of *C. smilacifolia*, growing very rapidly, with dull green, deeply cut foliage, and clothed with numerous axillary clusters of very large pure white flowers, (measuring three inches in diameter) having long bright yellow stamens. It was raised from seeds, received at Kew, and flowered in 1849, in the royal botanic garden. It is a splendid acquisition to our limited number of handsome climbing greenhouse plants. (*Flore des Serres*, October.)

118. *IMPA'TIENS RE'PENS* Wight. CREEPING BALSAMINE. (*Balsaminaceæ*.) Ceylon.

A greenhouse climber; growing six feet high; with yellow flowers; cultivated in loam and leaf mould; increased by cuttings. *Flore des Serres*. 1848. Pl. 403.

A curious and ornamental species of the balsamine, with a running habit, very small foliage, and exceedingly large yellow flowers, shaded with orange. It may be treated in the same manner as the common garden balsams: the plants should be preserved over winter in the greenhouse, and early in June turned out into a good rich soil in the border.

They will grow very rapidly, and if trained up to a pole or over a trellis, will produce an abundance of flowers all summer. It will be a fine companion to the nasturtiums, cobæas, ipomæas, &c. It is increased by cuttings and seeds. (*Flore des Serres*, October.)

119. **ZAUSCHNE'RIA CALIFO'RNICA** Presl. CALIFORNIAN
ZAUSCHNERIA. (*Ænothéracæ.*) California.

A greenhouse plant; growing two feet high, with crimson scarlet flowers; appearing all summer; cultivated in loam and leaf mould; increased by cuttings and seeds. *Flore des Serres*, 1848. Pl. 404.

A California plant, found near Monterey, by Mr. Hartweg, who sent home seeds in 1847, and it flowered in the garden of the Horticultural Society the same year. It has been highly praised both as a greenhouse and summer bedding plant, vieing in beauty with the fuchsias, and flowering profusely all summer. It has a neat upright habit, with small linear foliage, and from the axil of every leaf springs a long tubular, scarlet flower, with numerous projecting stamens, and a prominent stigma, each of the color of the flower. For brilliancy of effect, it is scarcely equalled by any other plant. It is of easy cultivation. (*Flore des Serres*, October.)

MISCELLANEOUS INTELLIGENCE.

ART. I. General Notices.

RARE CONIFERÆ AND IMPROVEMENTS IN THE CAIRNIES, AT PERTH-SHIRE, SCOTLAND. (Continued from our volume for 1849, XV, p. 550.) [We are gratified to learn, that there is so great an interest manifested by our cultivators, in the cultivation of the Coniferæ, and that the other portions of this excellent article, which we copied into our last volume, have been so generally read. The probability that most of the species which have proved hardy in Scotland, will be so here, renders the information it contains, of much value. We shall continue it hereafter, as it reaches us in the *Journal of Horticulture*.—Ed.]

Of the section, *Picea* or *Silver Fir*, there may be noticed—

Picea Webbiana of Loudon.—This is a Hymmalayan species of the first order, and one of the most distinct of the whole section *Picea*. Found between 30° and 32° of N. lat., in the western range of the Himmalaya, at an elevation of from 6500 to 10,000 feet. It attains a height of from 80 to 90 feet, with a girth of about 12 feet, throwing its vigorous horizontal branches

in massive irregular whorls a great way from the trunk, which more than its lofty stature render it one of the most striking products of the Himalayan forests. Nor is the general effect lessened by the depth of its robust dark-green foliage, which invests it with an air of gloom, but of a gloom that passes into grandeur, as the Alpine breeze attains sufficient force to throw up the thickly clad boughs, all sparkling as with silver on the under side. The tree bears purple cones, which are said to yield a dye of the same color, while its wood equals in perfume and in the fineness of its grain, that of the *Juniperus Bermudiana*, or pencil wood. Though found at so great an altitude, great complaints have reached us of its having suffered much in England, from spring frosts. Better hopes have been formed of it in Scotland. Nor have these been disappointed at the Cairnies. It succeeds, nay, thrives here. The young trees are vigorous, with summer shoots, the leader perfect, and the growth upward, not running away into laterals merely, as it is sometimes seen. It should be tried on a *dry bottom*, where its young wood is likely to get matured, its besetting infirmity being its liability to injury by early winter or late spring frosts. It seems to do best, with Mr. Patton, on a north exposure, where these evils are less likely to ensue. The seeds are frequently obtained from Upper India, under the name of *Picea spectabilis*. Lindley has classed it as an *Abies*, *A. Webbiana*, whom Endlicher follows. Others have it *Pinus Webbiana*. But Loudon is generally followed, in classing it as a *Picea*, *P. Webbiana*. The native name is *Chil-row*.

Picea Pindrow of Loudon, is another Himalayan kind, growing at an elevation of 8000 to 9500 feet. It attains a height of 80 to 100 feet, of the fairest form and straightest growth. It is grown, too, in the valley of the Sutledge, as an indispensable concomitant of the vine culture. It offers to realize here, the high character assigned to it for beauty, in its native hills. While Loudon classes it among the *Piceas*, Endlicher sets it down as an *Abies*, *A. Pindrow*, others as a *Pinus*, and Wallich as a *Taxus*, *T. Lambertiana*. Found to be quite hardy at the Cairnies.

Picea Cephalonica of Loudon.—Found at the height of 5000 feet, on the Black Mountain of Cephalonia, Mount Enos of the ancients. This beautiful silver fir is not unworthy of its classic birth-place. A tree of not more than 60 feet, it is eminently distinct from all others of this section, by its assuming the broad spreading habit and outline of the Cedar of Lebanon, and by its assimilating in the general aspect of its foliage, to the beautiful *Auricularia Braziliensis*, over which, however, it has this advantage, in its *proved hardihood*. It is variously classed as *Pinus*, *Abies*, and *Picea*; Loudon, who held it in high estimation, having it under the two last classes. It is the *Abies taxifolia* of one, and the *Abies Luscombiana* of another of his works; while with all others it is either *Picea*, *Abies*, or *Pinus Cephalonica*.

Picea Pichta of Loudon.—The Pitch silver fir. This, in its native forests, on Siberian and Altaian hills, is a remarkable tree, yet, though one of the dwarfiest of its section, it is for its perfect hardihood a valuable kind. Some authorities question the claims upheld for this tree to be regarded as a *species*, holding it to be a *variety* merely of the common *P. pectinata*, the whole

difference they assert, being in the price, the former being 2s. a plant, the latter 2s. or 3s. a thousand, a conclusion which does not seem to be sufficiently warranted. It is also variously classed as *Pinus*, *Abies*, and *Picea*; Loudon correctly classifying it under the latter description.

Picea Nobilis of Loudon.—Found in extensive forests near the cataracts of Columbia, by Douglas, who spent some weeks in woods composed entirely of this tree, “and, day by day,” he says, “I could not cease to admire it.” Never, certainly, was admiration better bestowed; for, among the whole range of Coniferous trees, the lover of that family may point at this superb species, as combining in itself all that is majestic in form and stature, beautiful in outline, and symmetrical in proportion. Attaining in its native forests, the stupendous height of 180 feet, it throws off at equal intervals, its horizontal branches, in whorls of such uniform order and arrangement, that each series forms a beautiful dense circular platform of the deepest verdure, broader at the base, and gradually narrowing their *radius* as they ascend. Neither is there the least approach to stiffness in this uniformity. On the contrary, from the fine incurvature, both of the dense foliage and the lateral shoots, imparting a feather-like softness to the branches, the entire tree is invested with a grace to which no description can do justice. The tree here, as every where, is perfectly hardy, and, with the *Deodar* and *Douglas Spruce*, should be the first aim of every pine grower to possess. As it is one of the newest, plant's here are but young.

Picea Grandis.—This giant of his race luxuriates in the humid valleys of Northern California, attaining there the magnificent height of from 170 to 200 feet. It is another of those splendid acquisitions for which this country is indebted to the exertions of the indefatigable, but ill-fated Douglas, who introduced it in 1831. It is scarcely less conspicuous for its great stature, than for the rich bright verdure of its foliage, which contributes in no small degree to the grandeur of its general aspect. Its qualities, as a timber tree, are unfortunately held in less estimation. It has proved here to be perfectly hardy, and the young trees are making rapid progress. There is a specimen of this tree of surpassing beauty, at Dalquharran, in Ayrshire, the seat of T. F. Kennedy, Esq., of Dunure, probably the largest in Scotland. It is likewise variously classed as *Pinus*, *Abies*, and *Picea*—the latter being Loudon's classification, is now universally adopted.

Picea Pindrow of Loudon.—This tree is a native of the East, occupying a range of from 8000 to 9500 on the Himalayan Alps, and is variously stated as reaching a height of from 80 to 100 feet. A beautiful advanced specimen of this tree, will be found in the Botanic Garden of Edinburgh. Here the trees are young, but vigorous. Planted in 1845, about 3 or 4 inches, they are now about 3 feet high. Don apud Royle treats of this tree in glowing terms:—“Arbor formosissima trunca strictissimo, ramis verticillatis, patentissimis, dense foliosis.” It is, in point of picturesque effect, behind few of the species. Throwing its strong, thickly clad branches far from the trunk, and wide apart, it presents irresistible charms to the painter, and the lover of wild untutored Nature; and hence well suited to contrast with the forms of its more symmetrical congeners. But with the very high-

est claims in this particular, its extensive growth will be discouraged by the consideration of its alleged unprofitableness as a timber tree—a conclusion, probably, too hastily arrived at. There is some confusion between this tree and *P. Khutrow* of Royle *P.* (*Smithiana* of Lambert) and *P. Morinda*, inasmuch so, that it is far from clear that they are not all one and the same thing.

Picea Hudsonii.—This must not be confounded with *Pinus Hudsonica*, or Hudson's Bay Pine, otherwise *Pinus Banksiana*. *Picea Hudsonii* is a dwarf kind, and better fitted for the lawn than the arboretum. It is yet new, and rather scarce—consequently the plants here are young. Hardy.

Picea P. Fraserii of Loudon, is another dwarf kind, Endlicher rating it as attaining only 10 feet. This is under the mark. It is a much-branched, compact growing kind, and likewise well adapted for a lawn. Found on the higher mountains of Carolina and Pennsylvania. There is no doubt about its being hardy.

Picea pinsapo.—This is a beautiful kind, a native of Mount Atlas, assuming much the appearance of the *Picea balsamea*, attaining a height of from 60 to 70 feet. It is a handsome, though a very slow growing, species—qualities which may recommend it more as an ornament for a lawn, than as a timber tree. Hardy.

I cannot close this section, without again directing attention to the magnificent row of *Picea balsamea* on these lands, probably unrivalled in Great Britain. At 46 feet of height, more than double the height assigned to this species by Loudon, there is not the least appearance of decay. Already far beyond the age to which that great authority restricted this sort, the continued health and vigor of these trees promise a still larger growth, and a still greater longevity.

There are here also a great many other species in this section, of which, as less beautiful and novel, I have made no mention; while some others I have already alluded to as falling under the section *Abietinea*, but which the weight of authority would class among the *Piceae*, such as the beautiful *Abies*, or rather *Picea Nordmanniana*, and one or two others, as to whose claim to rank in this division, there is greater room to doubt. The two sections, it must be allowed, run into each other by such imperceptible gradation, that it is almost impossible to rear up a boundary between them, and the sooner some great name sets about doing it away entirely, the better for all parties, but especially the often perplexed and imposed upon grower of this most beautiful order.

In my next and concluding article, I will dispose of the section *Cupressinea*, &c., and lesser divisions of this all-interesting family; and, at the same time, make a brief allusion to some rare and well advanced specimens in the other branches of the family, grown on the adjacent estate of Glenalmond, the property of James Murray Patton, Esq., the brother of Mr. Patton of the Cairnies.—(*To be continued.*)

ON GROWING FUCHSIAS AS SHOW PLANTS.—If properly treated, fuchsias can be had in good condition for showing, in September, as well as at any time

during the whole season. My mode of treatment is as follows:—About the first of August I go over my old plants and select cuttings, making choice of fine, short-jointed healthy shoots, the whole cutting not to exceed two inches long; I then take as many three-inch pots as I have cuttings, and fill them with a compost of equal parts leaf-mould and silver sand, well mixed together, and place a cutting in the centre of each pot. This is a far better system than striking a number of them in a large pot, and potting them off after they are struck; in fact, I would recommend the single pot system for all plants, to be grown for fine specimens; it prevents any check they may receive in potting off; this check may appear trifling to some, but it has its own effects on the fuchsia, which should never receive the least check at any stage of its growth, neither should it get too much excitement, but be grown slowly. After the cuttings have been placed in the pots, the best way to insure their striking, is to place them on a dung-bed, in which there is moderate heat; here they will strike freely. It will be necessary to shade them with a mat, during sunshine, till they are properly established, when they should be exposed to the open air when the weather is favorable, but they should be carefully covered during heavy rains and cutting winds, either of which would injure them. They must be watered freely overhead, night and morning, with soft rain water, and no other kind of water should be used during the whole growth of the fuchsia, as it will answer the purpose better than any liquid manure. After the plants have filled the pots with roots, it will be time to shift them into six-inch pots, using a compost of equal parts loam, turfy peat, and leaf-mould. If the peat is not sandy, it should be well mixed with silver sand; and the pots should be well drained, as these are the pots they will have to stand the winter in. Before removing them to the frame, clear away the dung, and place the frame on the ground; place some deals at a convenient height, as a temporary stage, to keep them near the glass; continue the same treatment as before, till the first appearance of frost, when it will be necessary to cover with mats, during the night; and before the severe weather of winter sets in, place a good lining of straw, about one foot thick, round the outside of the frame, cover it neatly with spruce branches, to keep it from blowing about with the wind, and, in severe frost, place a good covering of straw below the mats; if this covering is well attended to, the plants will suffer little from the winter, and will be in better health than under the protection of fire-heat; water them pretty freely during the whole winter, and expose them to the open air on every favorable occasion. By the first of March they will be growing freely, and if their roots have filled the pots, it is time for another shift into nine-inch pots, using the same compost as before. The young roots should be carefully protected from injury. The plants will now require to be placed in a large pit or frame, that can be well ventilated at back and front, so as to admit of a free circulation of air among the plants. They should be kept at a good distance from each other, and bricks should be placed below them, to raise them near the glass; the bricks may be removed, one by one, as the leading shoots come too near the glass; strong growing shoots should be topped or pinched off, and any that may incline to cross the others, should

be regulated; it is also necessary to turn them every day to keep them from growing one-sided, and water should be freely applied overhead, by means of a fine rose. When the weather is favorable, they should have the full enjoyment of the open air. As soon as they have filled the pots with roots again, which will be about the month of May, they should be shifted into twelve-inch pots, using the same kind of soil as before. Great care of the roots will now be necessary, for any injury they might receive at this time, would be apt to throw them into flower. The number required for showing, (the best, of course,) should be selected, and when the weather is very hot, and during strong sun-shine, they must be shaded-in with gauze cloth, such as is used for shading greenhouses. Any flower bud that may appear, must be nipped, from time to time, till the plants have attained their full size. By the end of June they will have filled the pots with roots again, when it will be necessary to shift them once more into pots one size larger, to keep them growing a little longer, for whenever they are pot-bound they get into flower. About the second week in August, place them in the greenhouse, to flower, and if the greenhouse is provided with a shade, they will be in good condition for showing by the 18th September.—A SCOTCH JOURNEYMAN.—[If any one wish to follow this practice, they may do so with great certainty as to the result, such is the clear descriptive style of our young correspondent; but we should now like him to show us, with equal clearness, wherein consists the advantage of this protracted, and necessarily expensive system, over the ordinary one of cutting the plants down and growing them from the root, commencing in March or April. Because, by this plan, plants 5 or 6 feet high, may be in flower long before the time specified by "A Scotch Journeyman," although the period occupied in their growth is less than half the time which his system requires.—(*Gard. Jour.*, p. 84, 1850.)

ON THE CULTURE OF BEGONIAS.—In your Journal of the 19th, I observe an article on the culture of begonias, on which I beg to make a few remarks. I cannot agree with your correspondent, when he says, spring-struck cuttings of begonia nitida are now handsome flowering plants. If he keeps them, his spring-struck cuttings, stopped back now and then, will make nice plants in ten or twelve months, but not handsome flowering plants. I have found it to take two years at least, before they can be termed flowering plants. It is not my way, to force them into lanky, bare stems, and leaves a mile apart; they will be far more graceful and beautiful, with the same number of leaves and branches and flowers, in one-third of the usual space. I do not say plants should be stunted, but, I say the skill of the gardener is shown in producing a plant of the best form that it can be grown—richness in foliage can never be attained when the number of leaves that should occupy a foot, are stretched out to a yard, and when the quantity of bloom that should grace a specimen of a foot and a half high, are sprinkled over two yards of half-naked stalks; therefore, slow growth is what I recommend. This slow growth can be attained by omitting part of the exciting compost, keeping lower temperature, especially at night, and giving plenty of air whenever it can be done safely. By this practice, in two years, cut-

tings of *begonia nitida* will make nice flowering plants. *Begonia floribunda* is a most excellent plant for flowering through the winter; *B. insignis* is a splendid thing, and nearly as good as *floribunda*; *B. manicata* is also a beautiful thing; *B. fuchsioides*, although not so good as some of the others, its scarlet flowers look well, and the plant also, when it is grown dwarf and bushy. *B. albo-coccinea* is really a splendid little plant, and ought to be in every collection; it is almost a permanent flowering thing—it is in flower nine months out of the twelve. These plants can be grown well in a mixture of rotted turf, leaf-mould, peat, and sand. I quite agree with your correspondent, that the night temperature should be lower than is usually given to stove plants; also, that there is much to be done in crossing and producing interesting varieties.—(*lb.* p. 84, 1850.)

FORCING FLOWERS.—Having read Mr. Ford's letter of the 12th of January, also your own remarks on early flower-forcing, it occurs to me, that if gardeners would, (through the medium of your Journal,) communicate to each other their experience on that subject, it would, doubtless, prove as interesting to many of your readers, as the discussion on bedding-out plants in the flower-garden, has done. And as the producing of cut flowers in winter, is a subject I am obliged to give a considerable share of my attention to, I will, with your permission, offer a few remarks as to what things I find most useful for that purpose, my method of treatment, &c., hoping that some of your more able contributors will be induced to take up the subject. I will begin with the rose, the universally-acknowledged queen of flowers, and few plants are better adapted for the purpose of forcing, providing, always, that they are well established in their pots, in suitable soil, &c. With the tea-scented varieties, (on which I principally depend for midwinter supply,) my practice is to keep them plunged in cinder-ashes, on the north side of a wall, during the summer months, pinching out the flower buds whenever they appear, until about the middle of October. I then put them into a light forcing-house, keeping them pretty near to the glass, and in a night temperature not under 50 degrees, giving air during the day, when the weather permits, stimulating them with weak liquid manure. By this treatment, I generally induce them to produce blooms, more or less abundantly, throughout the winter and spring months. With the hybrid perpetual and Provence roses, early blooms are more difficult to produce. I, this season, introduced a quantity of these varieties into a moderate heat, about the 15th of November, and the first blooms were cut on the 21st of the present month (January.) The Provence, or common cabbage-roses, will not expand before the first week in February. I may further add, that the latter have been forced every winter for the last four years. Hardly second to the rose, in point of request with me, is the Anna Boleyn pink, which I find possible to have in flower ten months out of the twelve, by pursuing the following system:—I layer them about the same time and in the same manner as carnations are generally increased; when well rooted, about the beginning of September, they are cut from the stools, and planted in rows, on a sheltered border. About the end of March following, they are potted into eight-inch pots, and plunged in a north border; whenever they show flower,

the bud is carefully pinched out; sometimes this operation required to be repeated. About the beginning of October they are placed on shelves, close to the glass, in a light greenhouse or vinery, and by giving a little heat, as the season advances, they generally produce blooms until Christmas. These, it will be observed, are retarded plants, not forced; and to succeed them, are in readiness five or six hundred plants, in six-inch pots, prepared as follows:—Plants that had been forced the preceding winter, are turned out of their pots about the middle of April, and immediately layered. The layers are generally well rooted by the beginning or middle of August, when they are at once put into their flowering pots, and when established, liberally supplied with water. Two hundred plants, so treated, were put into the forcing-house, at the same time as the Provence roses, (15th November,) and blooms will be fit to cut in a day or two, or about the first of February. I intended to notice a few more winter flowering plants, but must defer doing so for the present.—HAWTHORN. [A very good and practically-useful paper. We should like much to hear about the other things alluded to.]—(*Id.*, p. 84, 1850.)

POT-CULTURE OF VINES.—Notwithstanding the many useful articles, from time to time, (on the pot-culture of the vine,) which have appeared in the Journal, I have to trouble you by asking a few questions, trusting you will, from your own practical experience, give your ideas through the Journal. The vines I mean to force this year, are two years from the eye. I grew them last year in pots, known by the name of No. 1, 15 by 16 inches. The compost and manner of potting, were as follows:—The compost was equal parts top-spit from an old pasture, (rather light,) and vegetable mould, with an admixture of broken bricks, four inches of which were placed as drainage at the bottom, with one inch of *raw* broken bones on the top, over which was placed a thin circular-cut turf. The mould and the plant were then inserted, after shaking and loosening the roots, the latter being carefully spread. I may mention here, that I used every precaution in placing the drainage, to prevent the roots getting through. The plants were trained to one rod, which I allowed to grow to about seven feet, and then stopped them; and they are fine, firm, short-jointed rods. But I found, on turning them out for the winter, they were all more or less rooted through the pots in the mould in which they were plunged. I shall now describe the pit, they were and are to be grown in. It is 16 feet by 17, with span roof, at an angle of 45 degrees, heated by water, in tanks $2\frac{1}{2}$ feet wide on each side, and 2 feet passage in the centre. The tanks are covered with *slate flags* an inch thick, on which 6 inches of rubble stones are laid, covered by thin-cut turf, on which I used to grow melons. The vines will be trained up the rafters. First query is, What length of shoot should I leave, and how many buds or eyes should be left? Should I shift the plants into new compost? Is the compost a right *sort*? Or, would it be better to have two troughs of wood, made the whole length of the house, wide enough to hold the pots, and filled with compost, and give a fresh top-dressing, allowing the roots to get through into the troughs at will? Would it be better, that the part of the tank unoccupied by the troughs, should be stripped of the turf, and the

rubble stones laid bare, or covered with moss, to give more atmospheric heat, and gentle steaming when water is applied? Have you ever seen a fair crop by pot culture? Your answer and opinion will, sir, oblige your humble and obedient servant, JAMES MACLEAN.

According to my experience in growing pot vines, Mr. MacLean's management of his is correct, both in the potting, the compost used, and the kind of pit they are intended to be fruited in. I have always succeeded best with young vines, say two years from the eye, in put-culture. The compost I used, was the turf from a magnesian limestone rock, without manure of any kind. The size of the pot the same as Mr. MacLean's. I prune the canes back to about 4 feet, according to strength, and having *painted* them with the *lime and sulphur mixture*, bend them circularly, tying the point of the cane to a stake; this makes them break more regularly, and they can be tied to the rafters afterwards. I never leave more than six or eight bunches on a plant, so as to have the bunches and berries fine. I am of opinion Mr. MacLean's vines will not suffer from their roots having grown through the pots into the mould where they were plunged, if they have filled the pots well with young roots, and have had a good rest in the open air, or in a cold house. It is a great error in forcing vines too soon, if they have not been habitually prepared for it. Mr. MacLean's first query is—"What is the length of cane to be left, and how many eyes?" I should leave the canes 4 feet long, and disbud all the smallest eyes after they break, leaving about eight bunches on. I should not shift the plants into new compost, as I never found any advantage in disturbing the ball of a young vine when it was intended for fruiting: they do best in the pots where they have been grown all summer, and it is astonishing what a small pot will produce two or three bunches of grapes, if the soil is suitable, and they make plenty of fibres in it. I have no doubt, if Mr. MacLean did not want his pit for anything else, that his young vines would do well in the two wooden troughs, adding a top-dressing of chopped turf, and letting the roots wander at pleasure. He might, then, leave his canes 6 feet long, and leave more bunches on, and a little fresh compost added every year, would keep them in full bearing. The part of the tank unoccupied by the troughs, if covered with moss, would facilitate the escape of heat and evaporation. I have grown a fair crop by pot-culture; but where vines can be planted permanently in the borders, and in a suitable house, I do not see any utility in it, except for a few very early ones in March, for a succession. Besides, to succeed well with grapes in pots, a fresh supply must be got ready every year, as they rarely do well after one year's forcing. To an amateur or gardener, who has, perhaps, one house or pit only, and has to grow different kinds of plants, vines in pots, if well managed, would be a source of great gratification to them, and amply repay for all the care taken in their cultivation.—W. TILLERY.—(*Id.*, p. 85, 1850.)

ON THE CULTIVATION OF *ACHIMENES*.—My mode of cultivating the different species, is as follows:—As soon as they have done flowering, they are placed under cover, in some convenient corner, and watered two or three times, with a view to aid the swelling of the tubers; for they grow for some

time after they have done blossoming. They are then allowed to become quite dry, previously to being cut down; the pots are laid on their sides, and piled up one above the other, in any snug corner, below a stage; but they should not be exposed to a lower temperature than 35° ; 40° minimum would be safer. They winter better in the pots they were flowered in, than if taken out and placed in drawers, as, under such circumstances, they are apt to rot.

With a view to keep up the best series of successions, the first batch of tubers should be started in the beginning of February, the second, in the beginning of April, and the third, in the latter end of May, or at any time between these periods, according to circumstances; but if excited later than this, they would do little service to the amateur who has not the assistance of a stove.

The tubers (before starting them) should be shaken out of the pots in which they have flowered, placed in small shallow pans, with a little fine earth about them, and transferred to a cucumber or melon frame, in which a temperature of between 70° and 80° is kept up. But if a heat of this kind cannot be obtained, then 60° , with rather an abundance of atmospheric moisture, will suit them equally well. Move the plants from the pans in which they were excited, when they are an inch or two in height, and put them into their flowering pots at once. In doing this, the requisite number of tubers is placed at equal distances over the pot—five is the number we employ for a wide mouthed 6-inch pot: we prefer this pot to the more upright kind, for it contains a greater surface, and the roots of *Achimenes* run rather shallow. For growing fine specimens, pans should be used a foot over, and 6 inches deep, ten plants being employed to fill the pan.

The soil I use is a mixture of turfy-loam and peat, with a little well-decomposed cowdung and silver sand, all in rather a rough state, with a good proportion of drainage. In filling the pots, I place the rougher soil at the bottom, and fill up with the finer. The plants are then inserted, with their tubers, an inch below the surface. They are watered with a little chilled water, (using a fine-rosed pot) to settle the soil about their roots. Thus potted, they are again placed in heat (about 60° ;) with rather a moist atmosphere, and plunged in a gentle bottom heat.

Tubers excited in April, and after that, will not require this heat; and even those first started, would do well without plunging, but I find them to succeed better with it. Where a stove and plunging materials cannot be had, a dung bed frame, with a gentle bottom heat, would effect the same purpose, with this precaution, that a little air must be given at night, increasing the supply by day; and in bright weather the plants will require shading, or the action of the sun on their leaves, when covered with the vapour from the bed, will blotch them, which would spoil their beauty. Indeed, however well you treat them afterwards, all of them like a little shade, by which the leaves are kept more healthy, and the flowers brighter, and the latter hang longer. A late vinery, or a greenhouse, with creepers up the rafters, suits them very well.

The plants should be stopped back when they have grown 4 or 5 inches

in height; this causes them to break freely, and makes them handsome. I allow grandiflora to grow about 9 inches high, before I stop it; this prevents it from making shoots, but it has the tendency of producing a greater abundance of flowers, and when a pan of it is well tied out, it is a handsome object. I stop back pedunculata twice, leaving four eyes each time to break from; and I shift them out of the 6-inch pots when the latter becomes pretty full of roots, into a 9-inch size, as I find this is not too large for this variety. In this way, I have grown pedunculata with fine effect; its flowers being, in my opinion, little inferior to those of picta. This last named species seems to be better adapted for winter culture; and when grown in a moist stove, the foliage puts on that beautiful marbling which makes it appear very interesting.

Several of the varieties of Achimenes are subject to mildew. As soon as you see it, attack it with sulphur vivum, which prevents its spreading. On a watchful eye after this, and a few slight fumigations, depends greatly the success of the cultivator.—(*Jour. of Hort.*, p. 219, 1850.)

ART. II. Domestic Notices.

RHODE ISLAND HORTICULTURAL SOCIETY.—The annual meeting of this Society was held on the 30th of January last, and the following gentlemen elected officers, for the current year:—

President—Stephen H. Smith.

Vice President—Alexander Duncan.

Treasurer—Gilbert Congdon.

Corresponding Secretary—John Kingsbury.

Recording Secretary—George Thurber.

Executive Committee—Stephen H. Smith, *ex officio*; John J. Stimson, *Chairman*; William S. Patten, George Thurber, William Megee Snow, C. B. Manchester.

Committee on Fruits—Levi C. Eaton, *Chairman*; Stephen H. Smith, Owen Mason, George B. Peck, John J. Stimson, Ellis Pitcher, Lewis Dexter.

Committee on Flowers—George Hunt, *Chairman*; Richard Dalglish, William Megee Snow, William Nisbet, William H. Dyer, George Anderson.

Committee on Vegetables—Adam Anthony, *Chairman*; William Viall, George L. Clarke.

It was voted to accept the invitation of the Rhode Island Society for the Encouragement of Domestic Industry, to coöperate with them in holding a Cattle Show and Fair, during the coming autumn; and William S. Patten and George B. Peck were appointed to act with their committee of arrangements.

The report of the fall exhibition for 1849, is published in the Providence Journal. There was a very fine display of fruits of various kinds.

HOVEY'S SEEDLING AS A FORCING STRAWBERRY.—At a recent meeting of the Pennsylvania Horticultural Society, some fine specimens of strawberries were exhibited, from the garden of the President, Caleb Cope, Esq., comprising the following varieties:—Hovey's Seedling, British Queen, Buist's Early May, Keen's Seedling, Sciota and Cushing. Mr. Daniels, the gardener, stated, that the "British Queen, though a staminate variety, exhibits in flavor and prolificness a decided superiority over the others, and can be strongly recommended for forcing. Hovey's Seedling, Early May, and Keen's Seedling, are all good for forcing. The Burr's New Pine was tried, but did not succeed well." Mr. Strong, of Brighton, has exhibited, on several occasions, the present spring, some excellent specimens of Hovey's Seedling, thus proving it to be excellent for forcing.—*Ed.*

CLINTON COUNTY AGRICULTURAL SOCIETY, N. Y.—This society, re-organized last year, holds its eighth annual exhibition the coming fall, at Keeseville, N. Y., and offers very liberal premiums for agricultural, horticultural, and floricultural objects. The premiums for fruits, are principally books, and among them, we are happy to learn, are copies of the *Fruits of America*, and *Magazine of Horticulture*. The premium for the best and most extensive collection of fruits, is a complete Volume, of 12 Numbers, of the former work. As Clinton county is celebrated for its fine fruit, we do not doubt, should the season be favorable, that the show will be exceedingly interesting. We wish the society every success.

AMERICAN SEEDLING VERBENAS.—A writer in the Horticulturist, states, that "it is not to be denied that most of our Seedling verbenas are not worthy a place in our gardens." Rather a wholesale remark, and before asking any one to believe it, it would have been well to have stated what opportunity the writer had had for acquiring so much information. However, he tells his means of knowing, by stating that the best ones are, J. K. Polk, Buist's Eclipse, Boll's Major Ringgold, and Hogg's Bicolor Grandiflora, and, in the absence of a better, White Queen. Of sixteen varieties he has, he intends to throw all away and confine himself to ten alone, including Defiance, Anacreon, Satellite, and Rosy Morn, which he considers the best in the country." Now, this shows that the writer knows nothing about the good American verbenas. We cultivate FIFTY named varieties, exclusive of all he names, some of which, we venture to assert, are superior to any,—and, we believe, the greater part,—that have been imported. Some of these are Weld's Susanna, Barnes's Exquisite, Conner's Eximia, Ellwanger & Barry's Henry Clay, Brunette, and our own Seedlings Eclipse, Othello, Suzette, Gem, Anne Maria, Eliza, Apollo, and some others; as two-colored sorts, the first three surpass any thing from England, and as a white, nothing has been seen which will compare in purity of color with Suzette. Robinson's Defiance we have only seen under unfavorable circumstances, in pot cultivation; but, as to Beauty Supreme, except its large trusses, it is inferior to half of the fifty varieties we have. Eclipse has so far been the best scarlet in cultivation; but Robinson's Defiance may surpass it. We, therefore, advise writers, before they make such statements as we have quoted, to obtain some of the best American Seedlings, and not undertake

to advise amateurs to throw away all but the ten kinds he names, when he has only seen one-fifth of the fine varieties which have been raised.—*Ed.*

ERRATA.—In the March number, the following typographical errors were made in Prof. Russell's article:—Page 98, eighth line, for *there* read *these*: Page 99, eighth line from bottom, for *tidorum* read *tedorum*: Page 102, near the middle, for *Dellenii* read *Dillend*: Page 103, eleventh line from bottom, insert *in*, between "found" and "large": Page 106, sixteenth line from bottom, for *spring* read *spiny*.

ART. III. Massachusetts Horticultural Society.

Saturday, March 16, 1850. Exhibited.—From W. C. Strong, fine Hovey's Seedling strawberries, and plants of the same, in pots, with fruit. From E. Burns, Keen's Seedling strawberries. From J. Washburn, fine Easter Beurré Pears, well ripened, and handsomely colored.

VEGETABLES.—From E. Burns, a brace of Sion House cucumbers, and new potatoes.

March 23. An adjourned meeting of the Society was held to-day,—the President in the chair.

It was *voted*, that the Annual Address of the President, with the Report of the Special Committee, be printed for the use of the members.

A communication was received from Gen. Dearborn, enclosing an account of the rise and progress of the Society, since its organization,—prepared for publication in the last number of the Society's *Transactions*. The communication was referred to a special committee, consisting of the President, B. V. French, and C. M. Hovey.

A letter was received from Dr. J. A. Kennicott, of the Grove, Ill.

The Committee of Arrangements were requested to report upon the expediency of holding a semi-annual exhibition in June.

George Yendell, Charlestown, was admitted a member. Adjourned *sine die*.

Exhibited.—**FRUIT:** From J. F. Allen, Black Hamburg grapes, of the new crop; also, Black St. Michael figs. From E. Burns, very good Keen's Seedling strawberries.

VEGETABLES.—From E. Burns, half a dozen Allen's Victory cucumbers.

March 30. Exhibited.—**FRUITS:** From John Gordon, fine Easter Beurré pears. From E. Burns, fine Keen's Seedling strawberries.

VEGETABLES.—From T. Needham, a brace each, of Barnes's Man of Kent, Black Spine, Young Champion, and another variety; also, a small quantity of Early White potatoes.

April 6. The stated quarterly meeting of the Society was held to-day,—the President in the chair. [The proceedings of this meeting not having been received, will be given in our next.]

Exhibited.—**FRUITS:** From E. Burns, Keen's Seedling strawberries, well ripened and of high flavor.

HORTICULTURAL OPERATIONS

FOR MAY.

FRUIT DEPARTMENT.

GRAPE VINES in the greenhouse or vinery, will now be in full bloom, and will require rather more attention than last month. As soon as the flowers begin to open, discontinue syringing *for the season*. If the finest grapes are wanted, with a good rich bloom upon them, never syringe after that period. Many, otherwise beautiful grapes, are spoiled from not attending to this. While the vines are in bloom, and until the fruit is all set, raise the temperature a few degrees; air early in the morning, and close up early in the afternoon; such of the vines as are shy setters, should be daily shaken, in order to dislodge the pollen: by attention to this, an even crop may be obtained on all kinds. After the fruit is formed, resort to a very free watering of the paths and floors of the house, both morning, noon, and night, so as to keep up a genial and moist atmosphere. As soon as the grapes are of the size of small peas, thinning should be commenced; this should be done carefully, so as to retain the natural form of the bunch; attend also, to shouldering the large clusters. Be on the look out for insects; and if the red spider appears, fumigate with sulphur. Plants raised from eyes or cuttings, should now be re-potted, and brought forward in good heat. The last of the month is a fine time for planting out new vines, if the border is ready; if not, it may be delayed till the middle of June. Vines in pots, should be abundantly watered.

STRAWBERRY BEDS should now be raked, all weeds dug out, and put in order for the season; if the vines are too thick, dig *under* all the superfluous plants; the crop will be better than to have the beds too crowded.

FRUIT TREES, of all kinds, may be grafted now; those budded last fall, should be headed off, and have the ties loosened, if not already done.

FIG TREES should now be liberally watered, occasionally using liquid manure, or guano.

RASPBERRY PLANTATIONS should be dug and put in order; tie the canes up to strong stakes, and head off the tops down to where the wood is stout and well ripened.

PLUM TREES—as soon as the fruit begins to form, attend to the destruction of the curculio, by shaking the trees every day; this is the surest way to get rid of these depredators.

FLOWER DEPARTMENT.

ANNUAL FLOWER SEEDS will now require to be planted in the open ground; and as every garden should have a liberal quantity of them, we name a few of the most showy ones; referring to the catalogues for a general collection. German Asters; Larkspurs, of all kinds; Stocks, of all kinds; Coreopsis, the several sorts; Clarkias, Candytufts, Nemophilas, Godetias, Dwarf Convolvulus, Phlox Drummondii, Portulacas, Sweet Peas, Balsams, Marigolds, &c. Make the earth fine where the seeds are planted, and

do not cover too deep; about an eighth of an inch is sufficient depth for all, except the *Convolvulus* and *Sweet Peas*. *Larkspurs* should be planted where they are to flower, as they do not bear removal well.

RANUNCULUSES, planted in March, will now be coming up, and should be attended to; as soon as they are well above the ground, the soil around the roots should be made rather firm, to prevent them from being injured by drying winds; the beds may also be top-dressed the last of the month, with an inch of very old cow manure, or sand.

CARNATIONS AND *PICOTEES*, wintered in frames, may now be planted out, in the beds where they are to remain to blossom. Seedlings of this year may be also set out.

CHRYSANTHEMUMS may yet be increased by dividing the roots, or by cuttings.

GLADIOLUSES, and other summer bulbs, may now be planted in the open ground.

HOLLYHOCKS may now be transplanted with success.

JAPAN LILIES should be shifted into their blooming pots, if not already done.

PANSIES raised in frames, may now be transferred to beds in the open ground.

HEATHS may be now removed from the greenhouse to cold frames, to harden them off, preparatory to plunging, or planting them in the open ground.

DAHLIAS may now be brought forward in frames, and planted out the last of the month.

ACHIMENES should be repotted.

FUCHSIAS will need a shift into larger pots.

TEA, *BENGAL*, *NOISETTE*, and other roses, may be planted out in the borders, this month.

CAMELLIAS will now have nearly finished their growth, and will be setting their flower buds. For good advice, at this period, see a most excellent article in a previous page.

IXIAS, AND OTHER *CAPE BULBS*, done blooming, should be placed away on a dry shelf.

CYCLAMENS may now be sheltered in a cold frame.

PELARGONIUMS will now be coming into bloom, and should be liberally supplied with water, using liquid guano occasionally. Shade them while in bloom, and they will retain their beauty longer.

VERBENAS may be planted out the last of the month.

HERBACEOUS PLANTS of all kinds, may now be divided and reset.

HYDRANGEAS may now be propagated from cuttings.

HARDY ROSES should now be pruned; head in all the *Moss*, *Province*, *Alba*, and *Damask* roses, quite short, and leave the shoots of the *Hybrid Chinas* rather long, only cutting away the small wood.

DOUBLE SUNFLOWERS may now be planted.

VERONICAS should now be shifted into larger pots, if fine specimens are wanted.

ORANGE TREES may yet be grafted.

THE MAGAZINE OF HORTICULTURE.

JUNE, 1850.

ORIGINAL COMMUNICATIONS.

ART. I. *Production of Hybrids.* By P.

THE chairman of a committee of the Massachusetts Horticultural Society has, in his very valuable report, recently published in your magazine, (p. 184), the following expression: "With respect to some species of fruits, it is true, so great improvements have been in this way effected, [by new seedling specimens,] as to leave little to be hoped for." With all due deference to the opinion of a gentleman who has done, and is still doing, so much to controvert the statement, we say, that from these improvements which have been made in the productions of the earth, we learn not to be content with any results that have yet been reached; and every variety, *better* than all previous ones, either in agriculture, horticulture, or floriculture, seems at once to suggest a *best* yet to be discovered.

But little attention has yet been given on this side of the Atlantic to the production of hybrid varieties, either of flowers, fruits, or vegetables. A few facts, familiar from the nature of the cases rather than from any distinct observation, are, indeed, recognized by those who have had any thought upon the subject. It is not probable that every new name describes a new sort; nor that every new sort, though the latest, is the best of all. But that the way of getting good fruits, elegant flowers, and choice vegetables is open to mankind, in the occasional hybridization of standard kinds,

admits of no doubt, and it is a pity that the fact does not receive more general attention.

Now it is well known that all seeds, however carefully secured from admixture with others, if they have any "kind" of their own, do not, when planted, "yield fruit" according to it: or rather, it would be more proper to say, that they do thus "yield fruit;" but that the "kind" defies all human calculation. The accidental and unavoidable impregnation of the favorite squash, or melon, or cucumber of this man's garden, by his neighbor's inferior kinds, is sufficiently annoying, to say the least. It comes closely up to the mark of vexation, as most cultivators have proved, to have an excellent sowing of sweet corn exhibiting at the harvest some two or three quite undesirable varieties. And yet here we have the exhibition of the very means by which all improvements have been introduced.

Sometimes an accidental mixture atones for much previous annoyance, when a choice hybrid, which has distinctive characteristics of its own, is the consequence. Some of the freaks of nature, not to speak of fruits only, have brought us the brilliant displays of tulips which are now ornamenting our gardens, of verbenas, camellias, azaleas, &c., a list which is continually enriched by new treasures, even as we have just now by our side, lately introduced, the heliotrope *Souvenir de Leige*, which promises a fragrant yellow bloom. It is to be observed, however, that every chance variation from the original, a monstrosity in culture, does not constitute a hybrid, for it may have been produced by accidental conditions which cannot be renewed, and from the effects of which it may, in a single generation, return to its allegiance to primordial peculiarities.

Besides inferring, that *not* "a little is yet to be hoped for" from this capacity of improvement, we urge another reason for not allowing this thought a place: it is probably true in nature as it is in man's own experience, that there is no such thing as a *stand still*: there must be culture and care, inducing progress and improvement; or general neglect inducing deterioration. We presume it is an admitted fact,

also, that hybrids have a tendency to partake, in successive generations, more or less of the distinct qualities derived from either parentage. Thus, undoubtedly, kinds of fruits are changed in time; they fall back from the agreeable mingling of different elements more nearly to the primal condition of one of them. Every amateur knows the difficulty of retaining tulips which will continue to "break," as they did when newly received; and the dahlia, *Striata*, in its proneness to bloom a self-color, is a striking illustration of what we have suggested. And hence, we say, doubting the permanency of varieties in succeeding years, that we must look to new hybrids to retain the present character of earth's products.

But the intrinsic importance of this subject suggests at once, that, so far from trusting to the occasional recurrence of favorable modifications, their production should be reduced as much as possible to the accuracy of a system. The cultivator may do wisely to avail himself of the accidents whenever they occur. And with this view we would encourage the successive sowing of seeds of all kinds of fruits, vegetables, and flowers, with the subsequent care of the young plants, until it shall be ascertained that they are valueless; or of value unequal to the originals. It is certainly to be hoped, that the generous premiums offered by the Massachusetts Horticultural Society may induce some friends of good fruits to dispense with the practice of raising all their currant and gooseberry bushes from cuttings, when, in so short a time, the seedlings may be fairly tested; and such seedlings, probably, would scarcely ever fall behind the parent stock. In Europe, a vast deal is done in this way, and hence, the success there, in producing new kinds. But surely it is high time not to depend upon the other side of the Atlantic for fruits which may be rivalled by native, and therefore better, kinds for our culture.

It seems to have been the purpose of Providence, who has hid in merest germs such capacities yet to be worked, and capable in successive generations of an indefinite development for human advantage and convenience, that man, adding science to the ordinary accidents of culture, and pa-

tience and toil to the means of improvement, should bring, more than now, the products of the earth within his control. The divine appointment which gave to him the "dominion" over the earth, with its other inhabitants and products, seems to be answered in this progress. The changes in the habits, powers, and properties of animals are living testimonies to human ability in this respect; and these changes have been the results, in most instances, of a combination of care, toil, and knowledge. The command to "subdue the earth" yet remains to be answered.

Let us have then the best of to-day superseded by others of nature's productions, which shall add to the virtues of their ancestors something answering the improvements in the other appliances of civilized life: a *Sovereign People*, for our patriotism's sake, rivalling the *Prince Albert* pea; somebody's *President*, instead of May's *Victoria* currant. And not to enumerate the directions in which culture and care may be displayed, let us say at once, that a productive earth beneath us, a clear sky over us, and "the early and the latter rain" in their season, seem to open the whole range to any who will devote the needful attention—of agriculture, not the least deserving, the most requisite for human life—of horticulture, the most tempting and gratifying of pursuits—and of floriculture, so pleasing to the eye of taste and to the love of the beautiful and the sweet.

In another paper we may at some future time offer some suggestions in the further consideration, practically, of this theme.

Somerville, April, 1850.

The above excellent communication on the important subject of hybridization has been on hand some time, and would have appeared in our last number, but for want of space. The practice of hybridization has as yet received but little notice in this country; but the results which are to flow from its general application may be anticipated from what has been already achieved by the few cultivators who have devoted their attention to it.

The simple fact alluded to by our correspondent, viz., the

great admixture in most kinds of garden seeds, shows how prone all kinds of plants are to variation, even from accidental hybridization; and it may be at once inferred, that hybridization, effected with a view to the improvement of the progeny, by a selection of suitable parents, must produce good results. We would therefore invite particular attention to the above article, and advise all who are interested in the production of superior flowers, fruits, and vegetables, to commence at once the process of hybridization.—*Ed.*

ART. II. *Polmaise Method of Heating Greenhouses and Hothouses.* By R. B. LEUCHARS, Gardener to J. Hopkins, Esq., Clifton Park, Baltimore.

SINCE the publication of my last article, (p. 145,) upon this subject, I have had a communication from a friend who says, "that for pits and small plant-houses Polmaise is superior to any other method of heating," and to demonstrate the fact, he describes an apparatus he has erected, and which he designates Polmaise; which is nothing more than a common flue, with a hot-air chamber over the furnace, and is partly carrying out my suggestion, at page 150, of the April Magazine, viz., to economize all the caloric, generated by combustion, to the atmosphere of the house. If we take the trouble to examine erections for heating hothouses, we will find them so constructed that, of every 100° of heat generated by the fire, 35° are carried off by radiation from the materials of which the furnace is constructed; and I can at this moment point out an illustration of this fact, where the waste is as much as *fifty per cent.* Scarcely half the heat generated goes to raise the temperature of the house. When the furnace is situated inside the house, and the heat not absorbed by materials under ground, this waste heat is in some measure economized; but who would have such a bungling arrangement who could have it otherwise? The

amount of caloric lost by abstraction from the building is seldom calculated to its fullest extent, and, were this point alone duly considered, it is not too much to say, that one-third of fuel would be saved.

From the vexatious dissappointments which constantly occur in the construction and heating of hothouses, it is not uncommon for people to be driven from one expedient to another, and to endeavor to improve the efficiency of a system, by adding to the cost, without gaining an equivalent advantage. Any attempt to improve a system is commendable, whatever may be the results; and those who, in their alterations and expedients, make no advances towards superiority, may, at least, stand as beacons against the commission of similar faults. But to warm a house by flues, pipes, hot-air chambers, &c., and call it Polmaise, is not less absurd than building a four-horse wagon, and insist on calling it a wheelbarrow. To argue that Polmaise is cheaper in the beginning, is a position which I believe incapable of demonstration, and though an attempt has been made to establish this position, practical experience has proved the reverse; therefore we are justified in being dubious until the fact be more clearly demonstrated, the impossibility of which is evident, from the simple fact, that the materials which would make hot and cold-air drains would make smoke-flues, and the materials that would be required for a Polmaise furnace, would nearly make two common ones. These facts alone are sufficient to show the absurdity of the assertions made regarding its original cost. The improved method of Mr. Meek, which is described in the *Gardener's Chronicle* as absolute perfection in a heating apparatus, has neither the recommendation of economy nor simplicity, nor does its improver claim these in favor of it. In fact, it is as complex as the wheels of a watch, and so fickle and precarious in its working that it cannot be trusted for six hours consecutively, except in a house where the plants may be equally valuable, dead or alive. Notwithstanding all that can or has been said in favor of Meek's improvement, it is difficult to discover wherein it is superior to the old smoke flue, and I am quite

unable to find out what else it has than novelty to recommend it.

To talk of economy in combustion is not less absurd than economy of cost, since the loss of heat amounts to more than one-fourth of its whole heating power. In several instances I have lighted a piece of paper at the top of a chimney of an apparatus similar to Meek's, and in others I have measured the amount of heat proceeding from the chimney, and found it as much as 180°. Here is a waste of heat which cannot be justified by any contingent advantages, while, in reality, no advantages are gained to justify the loss. Meek's apparatus may answer the purpose of heating a house, and may do it as efficiently as a common smoke-flue, but then where is the economy?

I might here ask the question,—a question which appears to have escaped the inquiry of Polmaisers on this side of the Atlantic—If Polmaise be what its advocates call it, and possess all the merits its admirers claim for it, why has it not stood the test of experience? Why so many alterations and improvements upon the original simplicity of Mr. Murray's system? At first we were gulled into the belief, that "a hole in the wall, a wet blanket, and a small furnace" were all that were necessary to warm a hothouse of any dimensions: this plan was tried and proved to be a total failure. Then we have a host of improvements little better than itself; and, lastly, we have the somewhat scientific system of Mr. Meek, approaching still nearer in its properties to its formidable rival, the old smoke-flue; but still as much inferior to it as crabs are to pippins.

Another question of considerable importance is suggested by the statement of my correspondent, and requires a little more consideration and inquiry to enable us to come at the truth. If Polmaise be unsuitable for large houses, why is it the best system for small ones? and vice versa. I think if any one will attentively study the effects of a heating apparatus, in its application to the atmosphere of a hothouse, he cannot fail to be struck with the strange obliquity of some people's observations upon this subject. In fact, this acknowl-

edgment is itself an evidence that the system is fast sinking in spite of its supporters; and, indeed, this appears to be the only vestige of merit that remains to relieve it from oblivion, to which it otherwise had long since been consigned. To admit that it is useless for any other than pits, &c., is a tacit admission that it is wrong in principle, for, if the principle upon which an apparatus works be good, it will answer equally well in houses of all sizes. Hot water pipes, for instance, heat large houses as effectually and satisfactorily as they do pits, because the principle is good, viz., rapid conduction and extensive radiation, in both of which Polmaise is deficient. It is commonly the fate of erroneous positions, that they are weakened by defence and obscured by explanation, especially as in the present case, when its defenders deviate from demonstrable evidence, and raise a mist where there should be perspicuity. In the *Gardener's Chronicle*, Polmaise has repeatedly been extolled as the best of all methods for heating hothouses, and, from the tone of its editor and others, one would suppose that smoke-flues, hot water pipes, and all other systems were soon to be numbered among the things that were. Yet we find hothouses fitted up with hot-water pipes almost under his immediate control, showing at once an inconsistency and confutation of Polmaise by its greatest advocate.

I have said that Polmaise, or heating by hot air in any form, cannot be proved, by demonstrable evidence, to be superior to hot water, or even the common flue, for warming small houses, and I am anxious to learn the various items of its adaptability. We all know very well that small houses are more easily heated than large ones, for the simple reason, that the volume of air to be raised to a given temperature is smaller, and the external surface of radiation less. The internal surfaces of radiation in small houses are generally much larger, in proportion to the volume of air and external surface, than in large houses. The radiating surface in small houses is generally more than what is required, while the radiating surface in a large house is, on many occasions, not half sufficient for the work it has to perform. The power

of a heating apparatus should not only increase in proportion to the increased size of the house, but for every increase in the area of the house, the proportion of the area of radiation should be doubled. In general, this rule is exactly reversed, —the power decreasing as the house is enlarged! What proof can be afforded of the adaptability of an apparatus by warming a pit that might be as efficiently warmed by a common tea-kettle, or what satisfactory evidence can such facts afford of the superior adaptability of Polmaise for these purposes!

Those who are thoroughly acquainted with the principles upon which hothouses ought to be heated do not appear to be very numerous, if we are to judge from the specimens that are commonly erected; and there are fewer still who appear willing to undertake laborious and patient experiments, which are necessary to bring more practical facts to light on this subject. In fact, this subject, important though it be, seems fairly bound up by absolute indifference. Nobody appears willing to harrass themselves by so unaccustomed investigations. People are willing to take any one's advice rather than trouble themselves much about inquiries, and, therefore, in attempting to show the inferiority of Polmaise, as a system of heating, it is necessary to resort to arguments which appeal not only to practical demonstration, but will also stand the test of scientific examination. If half were true that has been published in favor of Polmaise, it would long ere now have been firmly established upon the basis of its own merits, and instead of struggling for existence as a theoretical novelty, it would have quickly silenced all opposition by its consummate excellence.

The first care of the builders of a new system is to demolish the fabrics that are standing; and the chief aim of the advocate of a new method is to decry the other methods that have been in use before it. Thus, we have a number of heating systems that are praised by some and condemned by others, without having any very definite testimony of the merits of either. The opinions of one person are condemned by another, and thus we find truth, sophistry, and

error taking each other's places by a sort of reciprocal invasion. But let us come at once to our purpose, and consider what are the first essentials of a heating apparatus, and see whether or not Polmaise possesses them.

The first excellence of a heating apparatus is, without doubt, adaptability; the second, is economy. By some, however, these positions may be reversed, and mere cheapness made the first consideration. But unless an apparatus answer in every respect the purposes for which it is intended, it cannot be called cheap, however little it may cost. It has been frequently observed in regard to Polmaise, that its chief recommendation consisted in its cheapness, and were this practically true, it might have some claims to our notice even though it wanted convincing arguments to prove its adaptability. The fallacy of this statement, however, requires no arithmetical calculation to prove it, since any person can prove the fact by a tradesman's estimate before he commences the work, and which I have proved repeatedly in a practical form within the last three months. To erect Meek's apparatus requires within a trifle of *twice* the expense of a common flue, and so convinced am I of the superiority of the latter, that in a forcing pit, eighty feet long, just erected here, I have heated it with the old-fashioned method, although the liberality of my employer placed all considerations of economy out of the question. But to give Polmaise of any kind credit for cheapness, appears to be the most absurd argument of its advocates; and, if our judgment is to be governed by reason and the evidence that is brought before it, we cannot do otherwise than pronounce this system of heating to be at perfect variance with all principles of economy in its construction; and this fact is fully confirmed by the development which has recently taken place in the system, and in the addition of common flues which are now generally recommended by its advocates, and, as a general rule, experience goes to prove, that in ninety-nine cases out of a hundred, cheapness in the beginning turns out to be dearness in the end.

In considering the adaptability of a heating apparatus, we

embrace the quantity and the quality of the heat generated. It has been ascertained by calculation, that the atmosphere of a hothouse receives *three times* as much heat from a certain quantity of fuel, through the medium of hot-water pipes, than from a Polmaise stove, and nearly twice as much as from a common flue, or, in other words, the atmosphere of the hothouse will receive as much caloric from one bushel of coal, by a hot-water apparatus, as it would from three bushels, by a Polmaise stove, or two bushels, by a common flue. These calculations may not be found to hold good in every series of similar experiments, owing to the difference of circumstances of the constructing and working of the various apparatus, which, by the mere plan of their erection, as well as by the extent of surfaces of radiation, may considerably affect the results; but, under general conditions, these calculations will come pretty near the truth, and, in some instances, the difference of consumption is much greater in favor of hot water. I have seen seven houses heated effectually by one fire and boiler, and consuming no more fuel than *one single* house heated by Polmaise. At one time, I managed four houses heated by one fire and boiler, and requiring less fuel than a common furnace in an adjoining vinery, heated by a brick flue. There can be no doubt, that for economy of fuel, a well-constructed hot-water apparatus stands first; next, a common smoke-flue; and lastly, Polmaise, or, properly, hot-air heating.

The *quality* of the heat generated may be said to be alike in all cases, although the temperature at which the heated air is radiated from its source has a considerable influence on the atmosphere of the house, and hence, when we speak of the quality of heat, we mean, that in some cases, as in old flues and in Polmaise stoves, other gases than those which compose pure atmospheric air enter the house from the fire; close, well-built flues, however, generate heat as pure in its properties as hot-water pipes, and the warmth of the one is not more arid than the other, although the contrary is supposed by many to be the case.

When we raise the atmosphere of our hothouse above the

temperature of the external atmosphere, we do so at the expense of the oxygen and aqueous vapor the internal volume may contain; or rather, the bodies within the house capable of giving off moisture, which is extracted from them by the increased capacity of the air for moisture, is carried upwards by the rarefied air, and escapes into the atmosphere through the fissures of the structure, or is deposited on the glass by condensation. In badly-glazed houses the heat thus lost amounts to nearly one-fifth of the heat artificially diffused; one-fifth more is lost by direct radiation from all parts of the structure, and the remaining three-fifths constitute the amount which supports the difference between the external and internal atmospheres. This is one of the chief causes why the atmospheres of hothouses are unnaturally arid. The abstraction and loss of moisture by these means is far more than would be supposed by those who have not calculated the amount. This abstraction is more by Polmaise than by any other system of heating. As the heat enters the house at a high temperature, it makes an immediate demand upon that portion of the house nearest to the current of ingress, and as the plants and the soil around them are the only bodies capable of giving off moisture, it is greedily abstracted from them by the warm air, until their vital fluids are expended to furnish the supply. The plants become dried up by a continuance of such treatment, the sap vessels are contracted and hardened, and death is the consequence.

The quantity of moisture a cubic foot of air will hold in invisible suspension depends upon its temperature, and as its temperature is increased, so is its capacity for moisture. Suppose then that this capacity is doubled, between the temperatures of 40° and 60° , then it follows that the heated air and the moisture it contained, thus escaping through the fissures of the glass or condensed upon its surface, deprives the house, and of course the plants within it, of double the quantity of moisture the same equivalent of air contained previous to its increase of temperature. Now, when a current of highly rarefied air is introduced into a house, through an aperture in any part of it, the air thus introduced will not diffuse itself

over the lower stratum, and thus ascend regularly from the surface to the roof, and here, the effects of the law which tends to bring all bodies to an equality of temperature practically fails in forcing-houses. Air, in itself, possesses comparatively little capacity of conducting its contained heat, and hence the great practical disadvantages of Polmaise. If air possessed the same power of conduction as water, then hot air would be superior to hot water in every respect, because the atmosphere of a house could be equally heated throughout by direct communication with the source of heat, without the intervention of water ; this latter element serving only as a conductor, imparting its latent heat to other bodies from which it is radiated more equally over the lower surface. Upon what foundation the advocates of hot air assert, that it is the most *natural* method of warming hothouses, I am unable to discover, and would be glad to learn. Perhaps I may be answered : We conduct the hot air into the house by channels or drains under ground ? Very good, but then Polmaise has no conductors, it denies the use of them, and this is exactly how it obtained its name and notoriety, and wherein it is different from others. Suppose, however, you keep the drain system without the name, (this is Meek's improvement,) I would like to know, first : where is the advantage of having under-ground drains ? and secondly : where is the original economy ? These, Mr. Editor, are practical questions ; let them not therefore be obscured by sophistry, or shuffled over by equivocation, for upon them is built the whole fabric of hot-air controversy.

Let us consider briefly the utility of under-ground drains or flues. These, we are now told by the advocates of hot air, are absolutely necessary for an equal distribution of heat over the house. The air is thus impelled by its increased rarity through these subterraneous caverns, until it finds an exit at their extremity, which communicates with the house. These are nothing more nor less than *buried flues*,—flues sunk in the ground, after the fashion, (now almost obsolete,) that some very old houses are heated upon ; and every gardener knows full well the difficulty of heating

houses where such flues exist. The waste of heat by under-ground channels of conduction is immense, whether these channels be hot-air drains, smoke-flues, or cast iron pipes, in consequence of the great absorption of heat by the cold mass of materials around them; and if hot air be conducted through channels beneath the floor, and communicating with the atmosphere at a considerable distance from the fire, a very small portion of the heat generated will enter the atmosphere by the aperture of ingress. This fact may be easily demonstrated by experiment. For example, let a stream of air, heated to 150° , be forced by its own specific gravity through a tube 100 feet in length; by the time it has travelled to the end of the tube it will be reduced nearly to the temperature of the external atmosphere. In an under-ground drain the reduction of temperature must be much greater, as the solid materials of which the latter is composed, will abstract the heat more rapidly than the atmosphere. It is impossible to calculate the amount of heat absorbed by an under-ground channel of conduction, but it must be very great. This advantage is gained by the common flue, which not only conducts the heat, but radiates it along its course, and the more a flue is exposed on all sides to the atmosphere, the more heat is radiated from its surface. Although the formation and materials of Polmaise drains and smoke are the same, their characters are clearly different. A smoke-flue is a medium both of conduction and radiation, —a hot-air drain a medium of conduction only.

From what has been said, I think it will require no great depth of penetration to perceive the superiority of common flues over Polmaise or hot-air drains, apart from the consideration of the heat lost by escaping with the smoke, a circumstance which is inevitable in a Polmaise stove, as smoke will not ascend from a hot-air furnace without carrying along with it a large amount of caloric, and this caloric cannot be economized without conducting the smoke through the house, and carrying off the caloric by radiation into the atmosphere. I have here taken a practical view of hot-air drains, and if any advantage arise from their use in the experience of

others, I shall be glad to be informed of it. My own experience has convinced me, that you can obtain little more than half the calorific influence of the fire, and that half at a temperature and in a condition which ought never to be admitted into a hothouse.

Notwithstanding the overwhelming amount of evidence which has been adduced against hot air for heating hothouses, there are many who do not hesitate to recommend it. But we hope the day of dictatorial and vituperative controversy on disputable subjects is gone past. We are not to risk our reputation, or be misled by the vague assertions of theoretical enthusiasts, who seem to be insensible of their liability to err, and establish their notions of right and wrong upon the assumptions of their own infallibility. The learned editor of the *Gardener's Chronicle*, who is the chief horticultural theorist of England, and who is only groping in the dawn of a profession of which he wishes to be considered as a master and practical teacher, has been the strongest advocate of this system of heating, showing, in a most striking manner, how comparatively little the greatest capacities can perform beyond the limits of their own province.

Clifton Park, Baltimore, April, 1850.

We commend the above paper to the careful perusal of all who are about erecting greenhouses, hothouses, or vineries. Mr. Leuchars has shown, that he fully understands the subject he has taken hold of,—a subject, we do not hesitate to say, that receives but little reflection, and is but little understood. All advocates of Polmaise should especially note his views on the principles of heating. Mr. Leuchars has done a good service in exposing so fully the absurdities of the Polmaise system of heating,—a system which we believe can never be adopted in this country, only at the sacrifice of great labor and expense. We have read all that its greatest advocates have advanced in its favor, and once attempted to warm a small house in this manner: and though we were enabled to keep out the frost, it was only at a waste of fuel and labor.—*Ed.*

ART. III. *The Curculio and Codling Moth ; their habits, and the best means of preventing their ravages upon fruits.* By M. H. SIMPSON, Esq., Saxonville, Mass.

DEAR SIR,—My attention has been called to examine the insects which are destructive to fruits, and to ascertain their habits, in consequence of being a sufferer for a number of years. As the information may be of use, I herewith submit the result of my experiments and observations. There are only two insects which have caused me any trouble ; the others are all easily destroyed, viz. : the Curculio and Codling moth. These two have destroyed the past year seven-eighths of *my apples, cherries, plums, and peaches*, and have disfigured the pears by their punctures.

THE CURCULIO.

The curculios commenced puncturing the fruit about the sixth of June, and deposited their eggs in full three-fourths of the apples, causing them to drop when very small, and to an equal extent the cherry and peach. The plums would have been all destroyed but for the means adopted in saving them : this was by shaking the trees, the insect falling upon cotton cloth, extended over a frame, which I placed under the tree, and also by placing a frame over the tree, and extending worsted netting over it, which was sufficiently open to admit air and light. The labor and expense of these methods are considerable, and I hope better plans may be found, one of which I am now experimenting upon with some prospect of success.

I showered the trees, before the buds broke, with white wash, with a hand engine, covering the branches *entirely* ; the time required for a moderate sized tree was only five minutes, and the expense of lime hardly worth estimating. If this does not answer the purpose, I shall syringe the fruit when but little larger than a common white bean ; my experiments have convinced me that this latter method is a sure preventive. I found four of the larvæ in one apple nearly ready to go into the ground, where they go through their

chrysalis state and remain until the following season in a torpid condition. I have produced the perfect insect from the larvæ which were found in the apple, peach, and cherry. In about four weeks the larvæ attain their full size, and are then known as the cherry and peach worm, generally so called, and also the small apple worm; and they are the cause of the cherry and peach rot by their late punctures. Respecting the habits of this insect, I have noticed that they commence their attacks on the fruit from the *first* to the *tenth* of June. I have seen them as late as the 1st September, but have not discovered fresh punctures later than the 20th July; and I am inclined to believe, that those which are seen later are of the new crop, which have been *disturbed* accidentally in the earth.

I ascertained the increase of the curculio by placing a male and female under a glass vessel, and giving them one plum a day for thirty-six days. They deposited, upon an average, about eight eggs per day, and they ceased depositing them about the same time that the punctures ceased upon the fruit on the trees. They go through their chrysalis state in three weeks after going into the ground, and remain in a torpid state through the season unless the earth is disturbed. I produced ten of the perfect insects, which are little black beetles, from the larvæ, and fed them until the 1st of January with apple. The larvæ which were in the fruit were placed upon a surface of earth in a glass vessel, and after eating three weeks, they left the apple and bored their way into the earth to the depth of three or four inches, and there formed a little home where they cast their skin, and in about three weeks the perfect beetle was formed; they lay dormant in this state until I disturbed them; some I took from the earth the 1st of August and others on the 1st of October.

The mechanical performance of this little beetle should not pass without notice. In making her nest and laying her eggs in the fruit, she exhibits an instinct that is truly wonderful: with her snout or proboscis she punctures the fruit in the shape of a semi-circle, to the depth of one-tenth of an inch, upon an angle of about forty-five degrees; and then

makes a horizontal puncture, directly under the skin, to the extent of one-tenth of an inch ; she then turns round and deposits her eggs, at the entrance of the horizontal puncture ; after which she again turns round, and, with her proboscis, pushes home the egg to the bottom of the last puncture, and presses the flesh of the plum against the skin, and holds it in this position about ten minutes, until the flesh and skin are knit together, for the purpose, as I suppose, of preventing the egg from rolling out, and also to protect it from a minute spider. The semi-circular cut is made to provide for contraction, as, if made straight, the skin would split and the egg roll out.

The curculio flies a great distance, and their numbers are immense where there are plenty of fruit trees. It is evident, unless some means are taken to diminish them, that they will eventually take all the fruit. I know of no article that will scent them off. I placed a bottle of spirits of tar directly under three plums, and in a few days found the fatal puncture upon them. The egg hatches in from five to ten days, and the fruit may be saved by taking out the egg, but the application of white wash, by syringing the fruit, I consider the most practicable, unless the experiment which I am now trying answers the purpose—of syringing the limbs before the buds break. To make the wash stick to the fruit or tree I put in a little glue.

THE CODLING MOTH.

The other insect to which I alluded is the codling moth : this little moth deposits her egg in the eye of the apple ; they commenced last year about the 15th of June, and were so destructive on my trees as to take about all the curculio spared, and many of the Bartlett and Passe Colmar pears. They are about all the season, or until the middle of September. There are two or three crops of them : I produced them from the egg in about five weeks ; they were two weeks eating before they were ready to go into the chrysalis state, and three weeks before the perfect moth appeared. They are a small grey moth, with a distinct mark upon the hind part of the

wings, of a brown color, edged with copper; they do not extend their wings more than seven-eighths of an inch; they are very lively at night, and entirely at rest in the day time, from which I infer that they fly only at night. I have never been able to find one upon the trees. After the egg is hatched, the worm eats to the centre of the apple, and then out at the side, and are the cause of the wind-falls, or *moth-falls*. I saved a number of apples by placing a piece of bees-wax over the eye; but the plan, for practical purposes, is to syringe the fruit with whitewash; this will fill the eye, and thus prevent the moth from laying her egg. I am happy to state, that I discovered a trap for the larvæ of this insect, by which an orchard can be cleared of them with little labor. Noticing two or three of the larvæ creeping upon a piece of *cotton cloth* which was thrown accidentally into the crotch of an apple tree, my curiosity led to further examination, and to my surprise and pleasure, I found thirty of the larvæ in their silken homes, going through their chrysalis state. They knit the folds of cloth together with silken ties, and there quietly change from the loathed worm to the perfect insect, which is perhaps as beautiful, under a microscope, as any production of the insect tribe. I again placed the cotton cloth in the crotch of the tree, and examined it in three weeks, and found another encampment of them in the same state, and hence concluded they were quite in my power with very little labor. The cloth should be placed in the tree about the 25th of June, and should be examined every three weeks, as it requires about this time to go through the chrysalis state; in one or two seasons they must be destroyed if this operation should be followed up. They find their silken web very readily attach to the little fibres of cotton, and by tying the cotton cloth to the tree the wind will not disturb them.

There is still another insect which does some damage to the foliage and fruit of trees. The perfect insect is a long, dark, slender fly, with long feelers and two stearers behind; they were found on the trees as early as the 15th of March, mating; they lay their eggs in the young bud; as soon as it

opens, the egg hatches, and the young larva commences eating the young leaves, and curling them up, in which he makes his home. They are destroyed by applying the whitewash to the limbs of the tree. The whitewash also kills a very destructive little insect, the eggs of which are contained in little mussel shells, on the bark of the apple and pear trees; [a species of coccus.—*Ed.*] I will communicate the effect of syringing the trees with the wash before the buds break, in July, when the whole effect of the experiment will be known.

Saxonville, April 22, 1850.

Notwithstanding much has been written upon the habits of these two destructive insects, (the curculio and codling moth,) Mr. Simpson's article will be found extremely valuable. His observations have been made with great care, and his experiments, in order to ascertain their various changes, have been conducted with great labor, and perhaps with greater attention than has been bestowed upon them by any previous writer. He has ascertained precisely the time when the curculio commences his operations, and the period they continue to destroy the fruit, thus placing it within the means of all to save their entire crop, by attending to the shaking of the trees, the only mode in which we think they can be successfully attacked. Mr. Simpson's experiment of syringing the trees and fruit is well worth trying, and we shall be gratified to lay before our readers the results of this plan after the season is over.

The codling moth is nearly as destructive to the apple as the curculio to the plum. Any information in regard to the best means of preventing their ravages will be hailed with pleasure by all orchardists. Mr. Simpson's mode is similar to that first described, we believe, by Mr. Joseph Burrelle, of Quincy, and published in the *New England Farmer*, (Vol. XVIII, p. 398.)

If such a plan is considered too expensive, or too much trouble to be put into practice in extensive orchards, it certainly is not in small gardens where there are but few trees,

and these choice kinds. The value of perfect fruits, compared with wormy ones, is too great to allow any means to be neglected which will secure the former. Suppose a garden to contain half a dozen trees of the Red Astrachan, Early Harvest, Bough, Williams, Benoni, and Porter apples, how slight would be the expense in the saving of a whole crop.

But we need not comment further upon Mr. Simpson's article; its value will be appreciated by all cultivators.

We only regret, that the communication did not come to hand in season to find a place in our last number. We trust, however, that it will yet be in time to enable those who follow its good advice to save the greater part of their crop of plums.—*Ed.*

ART. IV. *On the Cultivation of the High-bush Blackberry; with a Notice of the best Wash for Fruit Trees.*
By CAPT. JOSIAH LOVETT, Beverly, Mass.

DEAR SIR,—Always having been particularly fond of the smaller fruits, after preparing my grounds, and setting out a variety of strawberries and raspberries, about the year 1835, I turned my attention to the cultivation of the high-bush blackberry of our woods. At the season of ripening, I, for several years in succession, travelled through the woods of Beverly, Wenham, and Manchester, in the county of Essex, in search of such bushes as bore the largest and best berries; having noticed the most conspicuous in passing, I placed a stake by, or tied a string upon, each of them, and, returning early in the autumn, or on the following spring, I took up all the marked bushes and removed them to my own garden, or cultivated grounds; this experiment I followed for several years in succession, but in all cases made a very signal failure in the production of any fruit worthy of garden culture, and, I think, in 1840, gave up all hope of ever being able to grow this berry successfully. Several of my friends were no more fortunate in attempting to raise good fruit from

canes procured from the woods of New Hampshire, and the trial was, for the time being, abandoned altogether. A year or two later, a cultivator from Dorchester exhibited some very fine fruit of the blackberry, at the rooms of the Massachusetts Horticultural Society, in Boston, and I immediately procured from him a few bushes, and, from that time to the present, I have succeeded in producing good fruit from this stock. I have now in cultivation several seedlings raised from this Dorchester stock that have produced fine fruit, but as yet, none better than the original, and the latter are no larger or finer than I have gathered, with my own hands, from the wild bushes in the woods in New Hampshire, or this vicinity. The variety I now raise is the one I originally received from Dorchester, and this is the only one I have seen cultivated successfully.

I have planted the bushes in various positions on my grounds, and they have uniformly done well; but I think the largest berries and best crops have been produced on patches near the street, having the wash from the road passing over them. My ground is a strong loam, inclining to clay, over a subsoil of yellow stiff clay. I have given them no particular care, spreading a light coat of stable or pig-pen manure over them once a season, usually in the autumn. In regard to pruning, I have sometimes cut the tops off of the longest canes, so as to make them stand without stakes, and occasionally have staked them up; but I have found those left to trail on or near the ground have done best, and I now uniformly allow them to grow in this manner.

WASH FOR FRUIT TREES.—I am, at this season of the year, frequently asked what is the best wash for fruit trees, both trunk and limbs. The following has given me the best satisfaction of all the various mixtures I have tried, and I have used no other for at least twelve years:—I use a large vessel, say a tub, made by sawing a molasses hogshead in two, at the bung, which will hold about seventy gallons; in this tub I put a wheelbarrow load of yellow clay, and an equal quantity of fresh cow manure, covering it with water. After

soaking and mixing a day or two, I add half a bushel wood ashes, one pound of sulphur, six or eight pounds of soft soap, and mix well together; then slake half a peck of lime, and add to the above, using water sufficient to make the whole about the consistency of thin cream, which will nearly fill the tub; mix well together for several days; then, with a common whitewash brush, (an old floor brush will answer,) I paint the bodies of the trees, having first used a smaller brush to paint the crotches of the limbs, and the limbs themselves, as far as possible. I think any gentleman trying this wash, or paint, if you please, will find it to give him perfect satisfaction on every kind of fruit tree in ordinary cultivation with us.

Beverly, May 15, 1850.

It gives us great pleasure to present the above remarks, on the culture of the blackberry, by our friend Captain Lovett, who has been very successful in raising some of the finest specimens we have ever seen of this delicious but neglected fruit. It will be noticed, that there is no peculiarity of treatment required in order to raise it in abundance; the only thing necessary is to get the right kind of plants, as it will be seen, that, whatever may have been the cause, success has only followed when the bushes were obtained from one particular source. Plants from the woods, in all cases, failed. The experience of Captain Lovett, in this respect, is highly valuable, as it has been supposed that the wild bushes had only to be transplanted from the pastures to the garden, and an abundant crop of improved fruit would be the result. Such it seems is not the fact; Captain Lovett has produced seedlings, but he states, that they do not surpass the original fruit; this, however, should only encourage amateurs to go on raising more and more, assured that good results will follow their labors in the end.

The wash for fruit trees, recommended by Captain Lovett, we have no doubt will give good satisfaction, as the ingredients of which it is composed are all excellent for cleansing the bark and protecting it from insects.—*Ed.*

ART. V. *How to Prune the Apple.* By R. THOMPSON, Superintendent of the Orchard and Kitchen-Garden Department of the London Horticultural Society. From the Gardeners' Chronicle.

THE art of pruning, though generally considered as of easy attainment, is often very little understood, even by many who profess to have made it their study; lopping off limbs here and there, cutting out cross-wood, and "shortening in," a phrase in every body's mouth who has any thing to do with trees, may be performed by the merest tyro in gardening. These operations do not constitute the art of pruning; as well might the cultivator of trees be called a pomologist. The art of pruning consists in a knowledge of the capacities of trees for producing wood,—the relative position which the shoots will assume when full-grown,—their probable vigor and strength,—an appreciation of the properties of form and proportion,—and the judgment, so to cut each branch or spur, that every portion of the tree shall receive a due amount of air and light, and the future branches the inclination and form which it is desired they should assume. To do this, in the best manner, is no easy task, and all, who have imagined it to be so, will find, after a little experience, that they are entirely mistaken.

After reading the several articles by Mr. Thompson, which we have given in our previous numbers, we have no doubt the difficulties to be overcome, in acquiring the art of pruning, will be apparent to all. It is, however, impossible to make every operation understood by reading, notwithstanding they are so well illustrated by excellent engravings: practice alone can make perfect; yet the elements of the art are plainly laid down,—and all who will read carefully and proceed cautiously, cannot fail to accomplish good results, and in time become experts in the art of pruning trees.

With these cursory remarks, we shall not longer detain the reader from Mr. Thompson's advice on pruning the apple:—

PRUNING.—THE APPLE TREE.

The apple tree, left to its natural growth, forms generally a low stem, branching out into a top, which ultimately becomes hemispherical, towards the outside of which, fruit-spurs, leaves, and fruit, are most abundant; to support these, the branches interiorly may be considered as a sort of framework, for they are often destitute of spurs or foliage. In pruning and training it is necessary to bear this natural tendency of growth constantly in mind; for although that tendency may be subdued or diverted to suit the purposes of cultivation, yet it cannot be annihilated whilst the trees are young, and as vigorous as they ought to be. A tree may be prevented from growing up with a single stem by cutting back; then several shoots usually result, and these become so many smaller stems, if not interfered with. Like the individual stem they are not disposed to bear fruit; their tendency is to be merely pillars or supporters of a system of elevated ramifications, at the extremities of which fructification naturally takes place. Being aware of this, the operations of pruning and training, necessary to be performed when the tree is to be grown in any particular form different from its natural habit, will be better understood. The modes in which the apple tree is grown are numerous. The principal are, as standards, open dwarfs, pyramids, trained against espaliers, and against walls.

A *standard*, properly managed, should have a clean, strait, and substantial stem. By substantiality of stem is here meant a structure capable of supporting itself without bending, and hence not requiring the aid of stakes. In general, this property is too little thought of; or, at its expense, the other properties are endeavored to be obtained. The following will illustrate this. Supposing it were required to grow an apple tree with a stem, (if such it might be called,) fifteen feet in length, yet nowhere more than an inch in diameter; the way to effect this would be to train a maiden plant to a rod, taking care to allow no side-shoots to grow, nor any leaves, excepting a very few at top. By adopting a similar proceeding year after year, the stem will reach the

height above-mentioned, and be like a slender, flexible rod, almost of uniform thickness, which would instantly bend to the ground on being deprived of its support. It must be considered a work of misapplied art; for naturally the plant would have put forth side-shoots and leaves as it advanced; and these leaves would have contributed to the formation of layers of wood, increasing the thickness of the base; thus the stem would have become an elongated cone, a form adapted for self-support.

From what has been stated it is obvious that the necessity for stakes is owing to the improper management of the plant whilst the stem is being reared; and this again from the erroneous idea that a sufficiently clean stem cannot be produced unless it be stripped of leaves, twigs, in short of everything but the bark. Every leaf which appears along the young stem should be encouraged. If any strong shoot break out let it be checked; but all other laterals should be allowed to go on at least to the end of July, when they may be stopped by pinching off their points. In the following autumn cut them off closely from the lower portion of the stem, and shorten the rest back to one eye. In the following season these eyes will push fresh shoots; treat them like their predecessors in summer, and clear an additional portion of the stem below, in autumn, by closely cutting the laterals which may have pushed therefrom. By this mode of procedure self-supporting stems can be generally insured.

The formation of the top must now be considered. The height of clear stem being determined, the upright leader, exceeding that height in summer by several inches, must be shortened back at the ensuing winter pruning, so that the lowest of three buds immediately below the section shall correspond with the intended height of stem. These three buds will give rise to three shoots, which should be encouraged for the commencement of the branches of the tree.

Each of them, as they proceed in growth, should be made to diverge at an angle of about 45° , or half way between the horizontal and perpendicular directions; and, at the same time, the shoots should be kept equidistant from each other.

At the winter pruning, they should be shortened to within

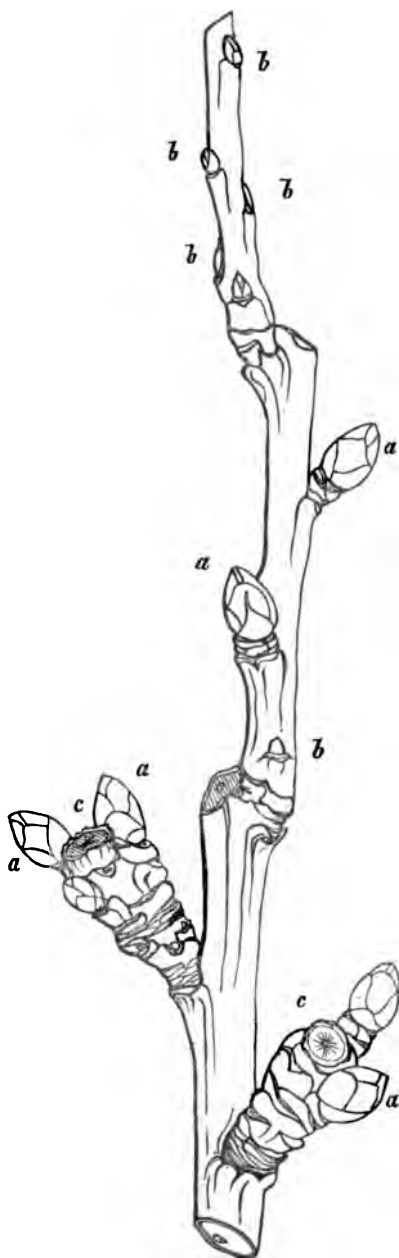


Fig. 13. The Apple Tree.

a a a a a, blossom buds; *b b b b b*, wood buds;
c c, scars where fruit was attached last season.

nine inches or a foot of their bases, particularly observing to cut above two buds pointing outwards in the direction which it would be desirable the shoots proceeding from them should take. Six limbs will be thus originated. Again a little attention in summer will insure an equal divergence of the shoots from the perpendicular, and equal distances from each other. Meanwhile, a gradual divestment of the temporary shoots on the stem is presumed to have annually taken place, as above recommended. The scars resulting from the suppression of those on the lower part of the stem will have nearly, or quite healed over; for this process will be greatly accelerated by the action of leaves on shoots left above. It may be observed, that after all these temporary shoots are removed from the stem, their beneficial effects continue; for the roots formed by their agency still remain to contribute to the future growth of the tree.

After the principal branches have been started, it would be well to regulate the growth of the top for a few years longer, by checking, about midsummer, any shoots that are over-luxuriant, or that are taking a wrong direction. Afterwards, little pruning will be required. The branches should be kept thin enough to admit sufficient sun and air; and after bearing heavy crops, portions of the extremities should be a little shortened.

Open dwarfs are next to be considered. Presuming a tree, which has made its first season's growth from the graft or bud, has been planted in autumn or early part of winter, let it then be cut back just above that bud which is ascertained to be eight inches above the surface of the ground. But if the plant is weak, or, from circumstances absolutely unavoidable, the planting has been delayed till spring, the cutting back to the height above-mentioned must be deferred till the following autumn. In both these cases, however, a little of the top of the shoot ought to be taken off when planted; and then let the plant grow as roughly as possible throughout the season. The more shoots and leaves it makes the better, above the height of nine inches; immediately below this height it would be desirable that the buds should not break till the second season after planting, by which time the tree will have made roots, and established itself sufficiently to push shoots vigorous enough to form the basis of the principal branches; and to obtain such at proper height is the object of cutting back the tree; it may be repeated, to the bud eight inches from the ground, before winter, in all cases, immediately when planted, if strong; but not till next autumn if the plant is weak.

Whatever shoots may be made by the plant in the first season after it has been cut down as above directed, let especial attention be directed to the three uppermost. Keep all others in check during the summer, and cut them off closely in autumn. The uppermost shoot will be eight inches from the ground; and as an inch is about the average distance between the buds on the shoots of the apple tree, the next will originate at seven inches, and the lowermost of the

three at six inches above the surface of the ground, thus leaving six inches of clear stem. It may be here observed, that the uppermost bud should point to the north ; for then the next will point to the east, and the lowest to the west, thus leaving the widest space open to the south, which is of advantage, because the sun's rays are not obstructed ; besides, the branches naturally incline to grow more towards the south than elsewhere, all other circumstances being the same.

The shoots, many chances to one, will not diverge in the right direction, and, therefore, training becomes necessary. Some prefer training the branches almost horizontally at first, and then nearly upright. Others as nearly as possible in direct lines at an angle of 45° , or half way between the perpendicular and horizontal directions. It would be an easy matter to train the three first shoots strictly at the above angle as they progressed during the summer ; but it must be recollected that before much fruit can be expected, the tree must have formed a considerable quantity of wood ; and one thing is certain, that the more its natural growth is interfered with, especially when young, the less wood it will form in a given time. Yet these shoots, even in their early stage, must not be left entirely wild and free ; for it usually happens, that one of them pushes with greater vigor than the rest, and that one should be a little checked by bending it from the perpendicular early in the season ; and so should the next strongest, but in a less degree, and thus the weakest left to its freedom will have a better chance of ranking fairly with its neighbors. When the shoots have made their principal growth for the season, but before vegetation becomes inactive, they should be brought into the position which they are intended finally to occupy, as least as far as six inches from their bases ; beyond this it is immaterial, for to that distance the shoots must be cut back in autumn. A piece of matting will be sufficient to secure them in an equidistant position from each other laterally, leaving, however, a somewhat wider interval on the south side.

The three primary shoots, cut back to six inches from

their bases, at the autumn or winter pruning, will generally push at least three shoots each in the following season ; but only two from each are necessary to be encouraged for leading branches, six of which will thus be originated, within six inches of the stem. These leading branches, if supposed to be extended horizontally, ought to represent the radii of a hexagon, the distance between any two adjoining branches being equal to their length from the centre or stem, up to the point where the said distance from one to the other is measured ; but when in reality they are not horizontal, but occupy a position half way between that and perpendicular, or having an inclination of 45° , the distance of one branch from another at, say three feet from the stem, will only be eighteen inches ; at four feet the distance from branch to branch will be two feet ; at five, two and a half feet ; at six, three feet ; and so on. If these relative distances are maintained, a uniform divergence of the six principal branches must result. When these are found to be a foot apart, a supplementary branch on each should be encouraged to fill up the increasing intervals. The branches may be kept in their proper positions by means of hoops ; or rods may be employed if hoops are considered too expensive. Neither the hoops nor the rods will require to be strong if timeously applied ; that is to say, whilst the shoots are not more than one year old. And it may be observed, that if a shoot or branch be kept in any position for only a few weeks in the growing season, that position will afterwards be retained, and the materials may be then employed where elsewhere required.

Having endeavored to give a general idea of what may be termed the frame-work of the tree, it will be necessary to advert to the management of one of the six branches from the time they were originated by cutting back the three primary ones. The leading shoots will require to be shortened to about a foot every winter pruning, observing to cut to a bud pointing outwards, and to the direction which the branch should take. Generally, if the leader be cut to a bud pointing outwards and to the left one season, it will require

to be cut to a bud pointing outwards and to the right in the following season. By shortening the leader, abundance of side-shoots will be produced. These should be pinched back in the summer ; and further reduced to within two inches of their bases at the winter pruning, and thus they will in a few years become fruit spurs.

ART. VI. *Pomological Gossip.* By the EDITOR.

THE FRUIT CROP OF 1850.—Never was there such a fine promise of a rich harvest of fruit as in the present season. The peach trees are radiant with their wreaths of rosy blossoms ; the cherries are even bending beneath the weight of their snowy clusters of flowers ; and the pears are tufted with a profusion of their beautiful corols,—gladdening the heart of every lover of this choicest of fruit, in the expectation of the bounteous crop, and anticipating the welcome of some new variety, over whose tender growth he has so anxiously watched, patiently awaiting its mature growth and promised harvest. A rich treat is a morning stroll at this season, through the well-stored fruit garden of the amateur cultivator, where

“Flowers of all hues”

bedeck the trees, and throw their perfume on the gentle gale.

A great fund of information may be garnered up at the period of blooming. To the pomologist it is especially a season of exciting interest ; to the amateur, one of great gratification ; and to the nurseryman, one of deep importance. How varied are the blossoms of every class of fruits ! Witness the pears. How rich is the Jargonelle, with its immense clusters of very large, beautifully cupped flowers : see that Beurré Diel, equally showy, but yet quite different in general aspect : look again at that Bezi Montigny, whose blossoms are but half the size of the others : and then note the Queen of the Low Countries, whose flowers are of the largest size, but whose petals are

so narrow and the flower so spreading that it may be singled out among twenty other sorts: see the Chaumontelle, whose buds have the rich rosy tint of the apple before they expand; and, as yet, more distinct than all, examine the Ferdinand de Meester. The pomologist at this season may add to his stock of knowledge in the distinction of varieties; and the nurseryman be enabled to correct errors, which, in spite of the greatest care, will creep into the "best regulated" gardens.

We have been more impressed with the importance of the blooming season, when, pencil in hand, we have, year after year, strayed among our trees, noting down the peculiarities of each and every variety, often first detecting a synonyme before the trees have borne a single fruit. Had nurserymen examined the blossoms of their peaches every year, the nomenclature of this delicious fruit would not have been such a mass of confusion as now exists. We would, therefore, impress upon all who have any interest in trees,—aside from the beauty which clothes them at this season,—to carefully make themselves acquainted with the peculiarities of their blossoms, assured they will never regret their examination, but rather be inclined to pursue it more eagerly on the return of every year.

THE REPORT OF THE PROCEEDINGS OF THE SECOND CONGRESS OF FRUIT GROWERS has just appeared, making a respectable pamphlet of upwards of one hundred pages. As it came to hand too late to give a review of it in this number, we omit it till our next, when we shall endeavor to present a brief abstract of the Report.

THE STANWICK NECTARINE, of which so much has been said in its praise, was to be sold at auction on the fifteenth of May. The whole stock comprised twenty-four plants, all that have yet been propagated, and no other young plants at present exist.

"The original nectarine tree," according to an account in the *Gardeners' Chronicle*, "is in the possession of his grace the Duke of Northumberland, at whose seat, at Stanwick, it has borne fruit for several years, and from which it derives

its name. The duke received it from the late Mr. Barker, of Suædia, in Syria, a gentleman whose attention had long been turned to the acquisition of the finest fruit trees of the East, in the hope that they might be valuable in his native country. It was his anxious desire, that such as proved to be adapted to the climate of the United Kingdom, might be immediately dispersed; and the sale now announced is in furtherance of Mr. Barker's benevolent design. In surrendering his property in it to the public, the Duke of Northumberland has resolved that the proceeds, after paying the expenses of propagation, &c., should be transferred to a fund in aid of the Benevolent Institution for the Relief of Infirm Gardeners: a plan in which Mr. Barker heartily concurred, and which we trust that the well-wishers to this excellent charity will heartily support. The sale will take place on the anniversary of the Institution, and the purchasers will have the satisfaction of knowing, that in this instance they may contribute materially to its funds, while at the same time they are consulting their personal interests.

In excellence, the Stanwick nectarine is as far beyond all other nectarines as a Green Gage plum is beyond all other plums. Beyond this, praise cannot reach. It may, nevertheless, be as well to repeat, on the present occasion, what we stated some time since, when the high quality of the nectarine first become perfectly ascertained:

'The nectarine forming the subject of this notice is about the size of an Elruge, and like it in shape, except in being less heart-shaped at the base. Its skin is pale, like that of the white nectarine, where shaded, with a violet tinge next the sun. The flesh is white, exceedingly tender, juicy, rich, and sugary, without the slightest trace of the flavor of prussic acid. The stone is middle-sized, ovate, with rather a prominent sharp edge, very rugged, and of a chocolate color. The kernel is sweet, like a nut, possessing none of the bitter almond flavor. The fruit of the peach and nectarine, partaking so much as it does of the quality of the bitter almond, must have been very deleterious in its unimproved state; but the varieties, now generally cultivated, retain but little of the

injurious properties ascribed to the species by ancient authors; and, when well ripened, they can be generally eaten with impunity, notwithstanding the slight prussic acid flavor which pervades even their luscious sugary juice; but some constitutions are liable to be affected by this trace. It was indeed considered unlikely that amelioration would be carried much further. For at least a century little improvement has been effected, and in every variety the kernels have proved intensely bitter. But at last this is overcome; in the specimen above described the deleterious quality, considered inherent in the species, has disappeared; and Mr. Barker himself informed me, that his fruits with sweet kernels may be eaten as a full meal, in quantities, at any time of the day, and repeatedly, with perfect safety.'

To this we have nothing to object, except that it scarcely gives the Stanwick nectarine so high a character as it deserves. In fact, at the time when the description was written, its full value was imperfectly understood, the fruit which reached London having been damaged in the carriage. We have lately, however, been favored by his grace the Duke of Northumberland with a liberal supply, which arrived in the most perfect condition, and we can now appeal to various persons near London, who had the opportunity of tasting it, as witnesses to its unrivalled excellence. 'The most delicious nectarine I ever ate.' 'The flavor is very delicious, and it is altogether most exquisite; I do not wonder at your speaking in such high terms of it.' 'It is a superb fruit.' 'Most delicious.' Such is the language in which great judges of fruit, accustomed to the finest known varieties, have spoken of the specimens they have received.

This evidence is conclusive as to the grand importance of the Stanwick nectarine to our country, and we confidently believe that the time is not distant when it will be found in every fruit-garden of the United Kingdom."

We have only to add, that we hope this nectarine will soon find its way into our collections of fruit.

ART. VII. *Descriptions of Ten New Verbenas.* By the
EDITOR.

AFTER the lapse of several years, since the first introduction of the old *Verbena Tweedieana*, the new seedlings have just begun to break into very distinct and novel shades. Our American seedlings have, hitherto, fully equalled, if not surpassed, any that we have received from England, and by a careful hybridization of the plants, we have no doubt, with a climate so admirably suited to the verbenas, and to the ripening of its seeds, we may continue to keep in advance in the production of seedlings. But the French cultivators, with their usual ardor, have entered the field, and have already achieved such good results, that we notice the principal new ones of the year, advertised by English cultivators, are seedlings of the Parisian florists; thus taking the place of their own. That they are thus entitled to such distinction we can readily imagine, after noticing the flowers of three of them, viz., *St. Margaret*, *Reine de Jour* and *Iphigène*, each of which are entirely new in color and other floral properties, as will be seen by our descriptions. We notice that some cultivators have adopted the term, "Fancy" varieties to those that are edged, mottled, or shaded, a distinction we think worthy of being generally followed.

We alluded last year, (p. 262,) to the production of striped varieties, and we are glad to announce such an acquisition in a new seedling raised by Mr. Briell, of Long Island. These departures from the plain colors are but the commencement of varieties, which will present a combination of tints as fanciful as those of the carnation or the dahlia. Our advice is to keep up the hybridization of the flowers, and the constant sowing of seeds.

The following embrace some fine varieties of last year,—not before described,—in addition to the new ones of this season :

1. *ST. MARGARET*.—Flowers large, deep rosy scarlet, with a violet centre of the peculiar tint of the inner petals of *Ce-*

reus speciosissimus ; petals large, fine form, nearly flat, and of good substance ; umbels very large, moderately compact, and of superior form ; habit excellent, moderately vigorous, trailing, and admirably adapted for bedding out ; foliage good ; a most superb and rich variety.

2. REINE DE JOUR.—Flowers very large, fine blush, with a deep rosy crimson centre, slightly veined and shaded at the edges ; petals superior form, flat, and of excellent substance ; umbels very large, rather loose, well formed ; habit vigorous, without being too gross ; foliage handsome, thick, slightly pubescent. One of the most remarkable varieties yet produced ; the individual flowers nearly cover a twenty-five cent piece, and the trusses are fully three inches in diameter.

3. IPHIGENE. (*Dufoy's.*)—Flowers large, lilac, with rosy carmine centre ; petals large, of good substance and form ; umbels large and well-shaped ; habit vigorous ; foliage good, thick, slightly pubescent ; a very beautiful variety.

4. DEFIANCE. (*Robinson's.*)—Flowers medium size, rich vivid scarlet ; petals medium size, well formed, and of good substance ; umbels large, compact, well-formed, presenting a fine circular surface ; habit moderately vigorous, somewhat trailing, short jointed ; foliage good ; a very rich scarlet variety.

5. MARIE LOUISE. (*Davenport's.*)—Flowers medium size, brilliant vermilion scarlet, with a deeper centre ; petals slightly starry ; umbels medium size and of good form ; habit moderately vigorous ; foliage rather small. Nearly or quite equal to Robinson's Defiance.

6. LOVEI. (*Briell's.*)—Flowers rather small, lilac, distinctly striped with pink, like *Phlôx* Van Houttei ; petals somewhat starry ; umbels medium size ; habit not very strong ; foliage small ; a distinct and very pretty striped variety.

7. BEAUTY SUPREME.—Flowers large, bright peach pink ; petals large, well-formed, and of good substance ; umbels very large, rather flat ; habit vigorous, blooming freely ; foliage good ; a very showy variety.

8. SATELLITE.—Flowers medium size, orange scarlet ; pe-

tals medium size, fine form; umbels medium size, well-shaped; habit moderately vigorous, trailing; foliage good, deeply serrated, and of a light green; very pretty.

9. HENRY CLAY. (*Ellwanger & Barry's.*)—Flowers, medium size, clear waxen blush, with a deeper and delicately shaded centre; petals medium size, good form; umbels well-formed; habit moderately vigorous; foliage thick, pubescent, good; a very beautiful variety.

10. COLUMBUS. (*Hovey's.*)—Flowers medium size, fine purple, with a dark centre, surrounding a light-colored eye; petals medium size, flat and well-formed; umbels medium size, presenting a fine circular surface; habit moderately vigorous, good; foliage good; a fine dark verbenia.

The following are the names, with brief descriptions, of some of the French seedlings, from the same source as *Reine de Jour* and *Iphigene*:—*Heroine* (*Dufoy's.*) bluish lilac, dark eye; *Chauvière's Minerva*, rosy pink, occasionally comes striped; *Dufoy's Morphee*, blue, with white centre; *Dufoy's Piccola*, dard red, crimson centre; *Dufoy's Remarkable*, deep red, large and showy flower; *La Reine*, a beautiful fancy variety; *Chauvière's Madame Bauenzod*, white, with a most beautiful purple eye. These are considered the best offered for sale the present spring by the London florists. We hope some of them may be introduced to our collections during the year.

MISCELLANEOUS INTELLIGENCE.

ART. I. General Notices.

GREENHOUSE PLANTS.—At page 148 I promised to give the names of plants that would succeed those that were then in flower, and as you may find many of the best sorts of plants left out altogether, it may appear to many of your readers in the way of retrograding; but I may as well give the reason. I am expected to grow grapes in the greenhouse as well as plants; consequently to have a good crop of grapes is one object, and the next is to have as showy a houseful of plants as can be had throughout the season. I find justice cannot be done to many of the hard-wooded plants that are often attempted to be grown in such houses as mine, and where the means are limited to a few frames only. I would recommend to grow well what is grown, so that it may always appear healthy and attractive; and I prefer such as are of simple culture, and that can be replaced in a year or

two. The most striking object at the present time is the *Cineraria*,—not grown, as often times they are, in puny plants. I have several plants from five to six feet in circumference, a complete mass of flower. I have a plant of *Newington* beauty with upwards of a thousand flowers expanded. Great credit is due to Messrs. Kendall, Ivery, Henderson, and others, for the great improvement that has been made in this interesting plant. Next comes the *Petunia*. To see ten or a dozen good bushy plants well up in flower is no mean object. I think they never look so well at home as they do in the greenhouse at this season of the year. Then there is the delightful tribe of plants, the *Verbena*, to be found in most gardens; not, however, where they might be seen in all their splendid shades of color, with the *Cineraria*, *Petunia*, &c., but in some corner of the house or frame, or in the cutting pots in a state of nudity, not intended to make their appearance until they can be shown off in the open ground, where they lose a part of their gay and attractive beauties by being surrounded with many of nature's lovely treasures which open at that season. I have now upwards of a dozen of the best varieties in flower, which have been kept in a cold frame with the *Petunias* all the winter; the only difficulty in keeping them is to exclude the frost and damp, and give them plenty of room, so that the air may circulate amongst them. To have fine plants now in flower, they should be struck from cuttings in June or July, and get them well-formed by stopping, &c., before the cold weather sets in; through the winter let them be sparingly supplied with water; in February, give them a shift into the pots in which they are to flower, and keep them a little closer in the frame. I would also recommend to have a few fine plants of *Scarlet geraniums*, *Rowling's Unique geranium*, (a plant three feet in circumference looks well, covered with flowers,) a good, early variety, a plant or two of *Heliotropium Voltairianum*, a few *calceolarias*, with a few of the early flowering *fuchsias*, (*hybrida* still remains in flower,) *Tropæolum tricolor* and *Lobbiania* look well as trailing plants, *Amaryllis*, such as *vittata major*, *lineata*, *Forbesii*, &c., with a plant or two of *Oxalis repens* and *perennis*, *Anagallis Moneli*, *Alonsia incisifolia*, *Cuphea platycentra*, with a pot or two of *mignonette*, and a few *ericas* and *lachenalias*. All these fill up the house for the present time.—(*Gard. Journal*, 1850, p. 259.)

GUANO BENEFICIAL TO AMERICAN PLANTS.—I have been in the habit of using guano and other strong manures in a liquid state for some years past to the *Rhododendron*, *Ghent*, and *Indian Azaleas*; and with great advantage. My practice is to use the guano in the proportion of one pound to thirty gallons of manure-water, that runs from the stable and farm-yard. I water the *Rhododendrons* and *Ghent Azaleas* as soon in the spring as I perceive the blossom-buds beginning to swell, and continue it at the rate of eight or ten gallons to each plant until the flowers are expanded, varying the watering according to the weather; if the weather continues dry, water is given once a week, but if damp, only once a fortnight. I also vary the quantity given each time, according to the size of the plant, taking care that each plant gets enough. As soon as the blossoms begin to drop I again have the plants well drenched with guano-water, so as to encourage the

early growth of wood ; by this means the latter is made earlier, and is consequently better ripened, and the foliage is of much deeper color than if no stimulus had been given. I treat the Indian or Greenhouse Azaleas in the same way, with the exception of giving them a short rest for a fortnight or three weeks after flowering, when they receive but little water of any kind. I then bring them out, and give them such pruning as is necessary to keep them in a good pyramidal shape, after which they are supplied with strong guano-water, until they have completed their growths ; they are then placed out of doors in a sunny situation, where they remain with the pots, protected from the action of sun and wind until the autumn rains set in, when they are housed for the winter. The advantage of manure or guano-water to the Greenhouse Azalea is, that the blossoms are much finer, and the petals of better texture ; and I find that by the use of manure-water the most deciduous kinds retain their foliage through the winter, and are well clothed with foliage when in blossom, which I consider adds much to the beauty of the plant ; even the old, but now rare one, "*Flore pleno*," under this treatment, is an evergreen, and although one of the most delicate of Azaleas, it will bear guano-water as well as any of the more robust kinds. When it has not been convenient for me to have the manure-water previously prepared for the Azaleas, I have placed a piece of guano, about the size of a walnut, on the surface of the soil, and watered upon it from time to time, and I never found any bad effects from this practice.—(*Gard. Chron.* 1850, p. 277.)

CULTURE OF THE CHRYSANTHEMUM.—He observed that it was only within the last few years that the chrysanthemum had attracted public attention. Partial exhibitions had been held in different localities, but it was now looked upon with as much interest as any other of our previously more familiar favorites. He knew of no autumnal flower that had greater claims upon our attention ; being comparatively hardy, the time it remained in perfection, the rich and varied shades of color, the distinct and beautiful varieties of form, its adaptation to the wall, the greenhouse, the conservatory, the drawing-room, or the cottage windows, tended alike to make it the favorite of the wealthy amateur, as well as the humble cottager. Mr. Holmes then proceeded with remarks on the new varieties, and the difficulty of obtaining seeds in this climate. The only important improvement he had noticed was in their cultivation ; some of the oldest varieties were still the very best. For instance, for incurved flowers, *Goliah* and two colored incurve stood unequalled. In the other class, superb clustered yellows were far before the imported new ones. If we could not save seeds, he thought we should reject all the new ones that are not improvements.

He would recommend only the early sorts for the pleasure garden where protection is inconvenient, such as *Queen*, *Imperial*, *Goliah*, *Princess Marie*, &c. ; for, if the flowers once become frozen, they would not expand kindly. When the object of the cultivator was for exhibition, whether for cut blooms or specimen plants, very much of his success would depend on a judicious selection of varieties for their respective purposes. He particularized the sorts most adapted for specimen plants, such as *Phidias*, *Lady Camden*,

Queen Victoria, Vesta, and Queen of the Belgians; and yet they would be almost useless where cut flowers were an object; for the latter purpose he recommended Goliah, Aristides, Queen of Gold, Beauty, and others of the like habit. In growing a collection of chrysanthemums he observed a great difference would be soon discovered in their time of flowering; he, therefore would advise discrimination between the early and late sorts, the latest being generally the fastest and best, such as Perfection, Campistremii, Kingdom, and two colored incurve. It was necessary to pay attention to the time of striking; for instance, the late sorts should be struck in the autumn, for if delayed till spring they were liable to prove abortive. For the propagation of the medium sorts, such as Pilot, General Marien, Defiance, &c., the third week in March would be found the most suitable. For the early sorts, such as Imperial, Queen, Princess Marie, the latter end of April was preferable. He preferred cuttings to suckers, and placed them round the edge of five-inch pots. The soil was not of much consequence, so that there was enough of sand mixed with it and sufficient drainage. He placed them in a close frame, with a little bottom heat; when the cuttings were struck he hardened them off, and shifted them in five-inch pots, protecting them for a short time, then finally shifted them into the pots or place where they were intended to bloom. Then was the time for the cultivator to determine the number of plants he intends growing. If intended for cut blooms, regardless of height, habit, or appearance, the plants must be divested of all side-shoots in their early stages, and trained up in single stems, and not by any means to stop them, and only one or two flowers on each stem; all superfluous buds to be removed in their early stages. For growing specimen plants in pots he shifted them at once into nine or eleven-inch pots; the soil equal parts of forest loam and well-rotted manure, with plenty of drainage. One or three plants in each pot, placed in a situation where they could get all the sun and air possible, as this tends to keep them dwarf and compact. As they advanced in growth he trained them so as to secure a free circulation of air. Plunging the pots had a two-fold advantage, by securing the roots from drought and preventing them from being blown over by the wind. He strictly cautioned growers against keeping their plants wet and soddened, as a loss of foliage would be the result, as would also be the case if an opposite extreme were adopted. As soon as they showed their flower-buds he at once thinned them, leaving only the centre bloom—that is, he stripped off all side-buds, that additional strength might be given to the remaining buds, and give them, when expanded, uniform size. With regard to liquid manures, Mr. H. had no doubt that to such a strong feeding plant, if judiciously applied, liquid manure would be highly advantageous; but he thought it possible to grow the chrysanthemum too strong, thereby causing the centre bloom to go “blind.” To preserve the flowers in perfection, he said they must be protected not only from frost, but also from rain, particularly from the sooty particle that always accompanies a London rain. Mr. Croxford preferred cuttings from the best and strongest of the suckers. Mr. Tant had taken cuttings from the best and strongest of the suckers, and also from the stem of the old plant, with the same result. He

considered liquid manure highly beneficial for the well development of the foliage and flowers, but it should be withheld when the flowers begin to expand. Half-a-pint of guano, dissolved in six or eight gallons of water, and applied as circumstances required, he had found highly beneficial. Mr. Kendall thought that the application of liquid manures, during the summer months, was highly beneficial. Mr. James had applied liquid manures to his plants in all stages and seasons, and from his success he was warranted in using it in the same manner again. Mr. Taylor had struck his cuttings later than Mr. Holmes had recommended, and had been most successful; his finest flowers were grown against a south wall in a well-prepared border, the flowers being protected by glasses hung against the wall. Mr. Boff struck his cuttings about the latter end of April, and when shifted into the flowering pots they were plunged out in rows close together, but three feet between the rows; he frequently finds that one-third of his plants were much inferior in flowers to the remainder, and he sought information on such an anomaly. Mr. Merry thought that the cause might be in the plants rooting through the pots, and disturbed at the time the flower-buds were forming, as Mr. Boff had stated that he frequently turned the pots round, so as to break any of the roots that had gone through. Mr. Holmes, to prevent the injurious effects of rooting through the pot when plunged, placed two bricks on edge at the bottom, thus leaving a hollow space below the pot. Mr. Kendall attained the same end in an easier manner, by simply making the hole six inches deeper than the bottom of the pot. Mr. Sanderson expressed his gratification at the results of the discussion, and proposed a vote of thanks to Mr. Holmes, which was duly accorded."—(*Gard. Journal*, 1849, p. 229.)

ART. II. *Domestic Notices.*

WORCESTER COUNTY HORTICULTURAL SOCIETY.—The annual meeting was held on the 2d of January last, and the following choice of officers was made for the current year:—

President—John Milton Earle.

Vice Presidents—Stephen Salisbury, Dr. Wm. Workman, Wm. T. Merrifield.

Treasurer—Frederic W. Paine.

Librarian—Anthony Chase.

Secretary—George Jaques.

Subsequently, at a meeting of the trustees, the following additional elections were made:—

Committee on the Library—Daniel W. Lincoln, Dr. Wm. Workman.

Committee on Fruits—George Jaques, *Chairman*; Samuel H. Colton, Dr. W. Lincoln.

Committee on Flowers—Dr. Samuel Flagg, *Chairman*; Dr. Wm. Workman, Meltiah B. Green.

Committee on Vegetables—Charles Hadwin, *Chairman*; Gardiner Paine, John C. Ripley.

Committee of Arrangements—Daniel Waldo Lincoln, *Chairman*; Wm. M. Bickford, Dr. Samuel Flagg, Charles Paine, David S. Messenger, George Jaques, John Gray, Jr.

The following votes were passed at the same meeting of the trustees:—

Voted—To have an Exhibition, to continue three days, commencing on Wednesday preceding the Fourth of July.

Voted—To have an Exhibition, to continue three days, during “Cattle Show Week.”

The society is in a very prosperous condition. They have purchased a beautiful lot, and will probably erect a large and commodious Hall upon it next year. It is a thing devoutly to be prayed for, that our next Legislature may be endowed with such an enlargement of the understanding, as to perceive it to be their duty to afford some pecuniary assistance to these most useful institutions—the Horticultural Societies! Are they not already more useful and more important than the Agricultural Societies? We think that they are;—to add one word more—We know that they are.—*Yours, J. Worcester, May, 1850.*

AMERICAN PEARS ON THE QUINCE STOCK.—Your remark respecting the growth of American varieties of the pear upon the quince, has led me to make some inquiries and to institute some experiments, of which you shall be duly informed, whenever I get far enough to report progress. In the mean time, I simply add that I have seen the Buffum upon quince—one year from the bud—five and six feet growth, equalling even the Glout Morceau in that respect. How it will *continue* to grow, I am taking measures to satisfy myself fully.

By the way, how little we hear or see of that capital market pear, the Doyenné d’Hiver or Coffin’s Virgalieu. Indeed, the only notice of it that I have any were met with is on the 457th page of the third volume of the *Horticulturist*, by Mr. Manning. I have, or rather, I recently had, till very lately the *sacra fames auri* prevailed over my better judgment,—a tree of this variety, some forty or more years old, a great and constant bearer; the fruit always fair and handsome; the tree upright and graceful in its form; and both the fruit, (except that it is larger and later,) and the tree so closely resembling the old Doyenné Blanc, that I make no doubt of its being a seedling or hybrid offspring of the venerable old St. Michael.

The flavor of the fruit is but little below first rate, certainly better than that of many classed as second rate. Notwithstanding, in every other respect, the tree and its fruit belong near the top of the list of pears, denominated “Best.” It is very fine for cooking and for preserves.—*Yours, J. Worcester, May, 1850.*

[We are glad to learn that our correspondent is about assisting in the desirable task of ascertaining all those varieties which will succeed upon the quince; and we shall look for the results of his experiments from time to time, which cannot but add much to the limited stock of information which we now possess on the subject. It may be as well to remark, however, that

the results of *one year* are most deceptive: we have had some pears which grew exceedingly rapid on the quince the first year, but which have failed to make any growth the second. Swan's Orange, grafted on an apple by mistake, grew better the first year than it did *double* worked on the quince and pear. The fact that the Buffum does well the first year, will be no index of what it will do after it has borne one crop of fruit; yet from its affinity to the White Doyenné, it may be a variety which will do finely on the quince.

The Coffin's Virgoulouse has been incidentally noticed in our Magazine; it has annually been exhibited for several years, by Mr. Manning, Mr. Cabot, and other Salem cultivators. It is a very good winter pear, worthy of cultivation. We have a description and drawing of the fruit, and have only been waiting to ascertain its true name and origin before publishing an account of it in the Magazine.—*Ed.*]

THE SCOTCH LARCH FOR A HEDGE OR SCREEN.—By the way, what do you think of the Scotch Larch for a screen hedge? It thickens under the shears admirably; and then, how beautiful to have a hedge or screen with a phase for each season of the year; its fresh, delicate, opening buds in the spring; its bright, rich green in the summer; its various hues in autumn; and its naked branches for winter. Would it not, in an appropriate place, be very beautiful?—*Yours, J. Worcester, May, 1850.*

ART. III. *Answers to Correspondents.*

A BUDGET OF QUESTIONS.—Please inform me what is the best plum stock to work the peach upon? I have a fine peach on the plum, and it bears the winter decidedly better than others growing on their natural roots. I understand that Col. Perkins has the peach in this way, some forty or more years old.

[So far as our experience goes, we have found the Mussel plum to make the best stock for the peach. It grows freely and unites readily, the stock swelling as rapidly as the scion: seedlings from free growing seedlings may do as well, but we have not tried them. We have long been convinced, that peaches for amateur collections, at least, should always be grown on the plum. They grow slower,—ripen their wood more readily,—stand the winter better,—and are in no danger of borers.—*Ed.*]

Does the *Paradise d'Automne* grow well upon quince?

[Not with us: we work it upon the pear.—*Ed.*]

What are the best quince-bottom pears for double working?

[We have only tried a few sorts: the *Beurré d'Amanlis*, *Valleé Franche*, and *Sucrè Verte* have proved excellent sorts.—*Ed.*]

The Bartlett, Seckel, and probably many other varieties, would do much better double-worked than they do in direct contact with the quince.

What are the best climbers for covering an arbor? Say the best single one, the best three, and the best six or eight?

[For the best *single* climber, if flowers were not an object, we should take

the Virginia creeper. If for the flowers, the Sweet-scented Monthly Honeysuckle. For the best *three*, we should take any one of the fine Prairie roses, *Wistaria sinensis*, and the Honeysuckle. For the best *eight*, two Prairie roses, the Crimson Boursault, *Clématis flammula*, the Sweet-scented Monthly, Scarlet Monthly, and Yellow Honeysuckles, and *Wistaria sinensis*.—*Ed.*]

Can you settle the question about budding the peach? Are single, double, and triple buds equally successful? If not, which are the best? Which are the next best? &c.—*Yours, J.*

[We have found no difference in either,—anything but a flower bud.—*Ed.*]

BEST TWELVE VERBENAS.—R. T. S. The following are twelve of the most distinct verbenas, both old and new:—St. Margaret, Reine de Jour, Susanna, Suzette, Eximia, Defiance, Iphigene, Gem, Othello, Exquisite, Odorata, and Marie Louise.

BEST TWELVE DAHLIAS, BOTH FANCY AND SHOW FLOWERS.—*An Exhibitor.* If you procure the following, and bloom them well, you need not fear competition:—*Show Flowers*: Mont Blanc, Louis Philippe, Miss Chaplin, Miss Vyse, Richard Cobden, Cleopatra, Admiral Stopford, Black Prince, Box, Purple Standard, Duke of Wellington, Victoria Regina. *Fancy*: Picotée, Hoffgartner Meyer, Roi de Pontelles, Mrs. Shaw Le Fevre, General Cavaignac, and Florence Dombey.

ART. IV. *Massachusetts Horticultural Society.*

Saturday, March 30. Exhibited.—Flowers from A. Bowditch, a fine collection of hyacinths. From P. Barnes, fine seedling azaleas.

GRATUITIES AWARDED.

HYACINTHS: For the best display, to A. Bowditch, the Society's silver medal. [The notice of this exhibition was accidentally omitted in regular course.]

April 6. Exhibited.—**VEGETABLES:** From E. Burns, a brace of Allen's Victory cucumbers. From T. Needham, a brace each, of Wheildon and Young Champion cucumbers. From A. G. Parker, lettuce.

April 13. Exhibited.—**FRUIT:** From J. F. Allen, Black Hamburg and Pitmaston White Cluster grapes. From E. Burns, Keen's Seedling strawberries.

May 4. Exhibited.—**FLOWERS:** From Joseph Breck & Co., a fine display of hyacinths. From E. Burns, two bouquets.

May 11. Exhibited.—**FLOWERS:** From Joseph Breck & Co., a fine display of hyacinths. From E. Burns, fine plants of fuchsias and bouquets.

PREMIUMS AWARDED.

HYACINTHS: For the best display, to J. Breck & Co., \$5.

For the second best, to J. Breck & Co., \$3.

GRATUITY: To E. Burns for fuchsias and bouquets \$1.

May 18. The opening of the Hall for the exhibitions of the season took place to-day; but owing to the cool weather and backwardness of the season, the display was rather small. Neither plants in pots or cut flowers were numerous. The most noted things were a few very fine heaths, from M. P. Wilder. The show of fruit was greatly enhanced by the liberal contribution of Mr. Allen, who sent *seventeen* varieties, all well ripened. Our report is meagre, owing to the very small number of new plants or flowers which were sent for exhibition.

From the President of the Society, a variety of perennial flowering plants. From M. P. Wilder, azaleas, among which were *Gledstanesii* and *variegata fringea*; *pelargoniums*, *Annais*, *Flash*, and others; and fine heaths, viz., *Cavendishii*, *ventricosa breviflora*, v. *hirsuta*, v. *alba*, *tricolor*, &c. From T. Needham, a fine specimen of the new *Ceropégia elegans*. From A. Bowditch, azaleas, bouquets, &c.

From Hovey & Co., a plant of the new and beautiful annual *Nemophila maculata*, in full flower. From J. Breck & Co., *Spiræa pruniflora pleno*, and other flowers. From L. Davenport, Robinson's *Defiance verbenæ*, a variety of fine roses, and *Cineraria Beauty of Newington*, &c., &c. From J. A. Kenrick, fine specimens of the Double flowering peach, almond, apple, and cherry, with other flowers. From E. Burns, fine fuchsias, and cut flowers. From J. Nugent, *pelargoniums* and cut flowers.

PREMIUMS AWARDED.

PELARGONIUMS.—Class I.—To M. P. Wilder, for the best six new varieties, \$6.

Second prize not awarded.

CUT FLOWERS.—To James Nugent, for the best display, \$3.

To J. Breck & Co., second best, \$2.

FUCHSIAS.—To E. Burns, for the best six varieties, \$6.

To E. Burns, for the second best, \$4.

HEATHS.—To M. P. Wilder, for the best varieties, \$3.

To M. P. Wilder, for the second best, \$2.

GREENHOUSE PLANTS.—To M. P. Wilder, for the best display, of not less than twelve plants, \$8.

To E. Burns, for the second best, \$6.

GRATUITIES.

To M. P. Wilder, for bouquets, \$2.

To A. Bowditch, for bouquets, \$2.

To E. Burns, for the same, \$2.

To L. Davenport, for cut flowers, \$2.

To Miss Kenrick, for the same, \$2.

To T. Needham, for *Ceropégia elegans*, the Society's silver medal.

FRUIT.—From J. F. Allen, 17 varieties of grapes, among which were the Black Portugal, Black Hamburg, Red Chasselas, Chasselas de Fontainbleau, Gros Noir of Lorraine, Verdelho, Tottenham Park Muscat, Decan's Superb, Florentine, and Purple Muscat; Elton and May Duke cherries; three sorts of figs; Hunt's Early Tawney nectarines.

From T. Needham, Black Hamburg grapes. From J. Gordon, Easter Beurré pears, prepared for keeping after the manner of D. T. Curtis.

From F. Tudor, Duchesse of Angouleme and Easter Beurré pears, ripened by D. T. Curtis.

The Easter Beurré pears from Mr. Tudor were well ripened and of excellent flavor: the source to which Mr. Tudor refers is in the subjoined note:—

To Hon. J. S. Cabot, Chairman of the Fruit Committee: Dear Sir,—Early in April I had several dozen of the Easter Beurré pears; the product of Nahant. They were the remains of a large quantity, part of which had rotted, part shrivelled, and most of them *intractable*. As to ripening—at the request of Mr. D. T. Curtis, about two dozen were handed over to him, for experimenting upon, by his process of ripening. I think I may say they were worthless.

He will exhibit to your committee the fruits which were handed to him, after going through his process. I am respectfully, your obedient servant,

Boston, May 14, 1850.

FREDERIC TUDOR.

The committee *tested* several varieties of grapes from Mr. Allen; amongst the varieties was a seedling of a rich flavor, raised by Mr. A. The Decan's Superb has a *fault* of losing many berries on the cluster by premature decay. Mr. A.'s opinion is not favorable to the growing of this variety.

VEGETABLES.—From M. P. Wilder, Downing's Mammoth or Coloasal rhubarb.

May 25. *Exhibited*.—FLOWERS: From M. P. Wilder, fine specimens of the beautiful *Spirea prunifolia pleno*, which proves perfectly hardy and flowers profusely. From M. Tidd, Woburn, a seedling Cactus, raised between *C. grandiflora* and *speciosissimus*. From Hovey & Co., twenty-four varieties of fine pansies. From Messrs. Winship & Co., about forty kinds of flowering shrubs and plants, a fine display. Cut flowers in variety from J. Breck & Co., Miss Kenrick, Miss Russell, E. M. Richards, A. Bowditch and others.

PREMIUMS AWARDED.

PANSIES.—To Messrs. Hovey & Co., for the best twelve varieties of pansies, \$3.

For the second best, to Hovey & Co., \$2.

For the third best, to J. Breck & Co., \$1.

GRATUITIES.

To Winship & Co., for cut flowers, \$2.

To Breck & Co., for the same, \$1.

To A. Bowditch, for the same, \$1.

To Miss Kenrick, for basket of flowers, \$1.

To Miss Russell, for a large bouquet, \$1.

FRUITS.—From J. F. Allen, three varieties of figs, two of cherries and nectarines. From T. Needham, fine Black Hamburg and White Frontignan grapes. From W. C. Strong, Black Hamburg and Chasselas grapes.

HORTICULTURAL OPERATIONS**FOR JUNE.****FRUIT DEPARTMENT.**

GRAPE VINES in the greenhouse will now be swelling their fruit rapidly, and where the thinning has all been done they will only require the ordinary routine of air and moisture. Give the former early in the morning in fine weather, and close rather early in the afternoon; keep the house well damped in fine weather; watering the floor morning and night. If dry weather should set in after the late drenching rains, the border should have one thorough watering about the last of the month, giving at the same time a slight sprinkling of guano; mulching will be also of great benefit to the border in the dry weather of summer. Continue to stop all laterals that push at the first joint; see that all the bunches are well shouldered, and if very handsome clusters are an object, it may be well to go over now, and thin out, here and there, such berries as crowd the bunch and impede their swelling up to a large size. If the borders have not been dug, they should at once be completed.

Vines in the open air, as soon as the shoots have attained the length of two eyes beyond the fruit-buds, should be immediately topped; any large shoots may now be cut away without any danger from bleeding; tie in all the new wood carefully, and do not let the vines become too much crowded. Young vines raised from cuttings in pots should now have a shift into a larger size, and be kept in a frame with a mild bottom heat.

Now is just the time to graft vines in the open ground, after the shoots have grown two or three inches.

STRAWBERRY BEDS will now need to be thoroughly wed out, as this cannot be done again till after the crop is gathered. If nice clean fruit is wanted, new straw, cut up short, should be strewn along the rows and among the plants, or, if not convenient, short grass may be used; this will protect it from being covered with earth during heavy rains. New beds may be successfully made all the month, where it has been forgotten or omitted for want of time. The crop will be as good the next year as if the plants were set out in April.

FRUIT TREES will need some attention now; those that are very forward by the last of the month should have the top of the longest shoots nipped off. Young trees, bearing rather heavy crops, would do better to have a good mulching of rotten cow-dung or old litter of any kind. Plum trees that are infested with curculios should be shaken twice a day; gathering up the insects in a cloth and burning them.

PEACH TREES in pots, started in the greenhouse or grapery, may now be moved into the open air—in a sheltered place. Water freely with liquid manure, as the fruit attains a good size.

FIG TREES may also be removed to the open air.

FLOWER DEPARTMENT.

CAMELLIAS may now be removed to the open air, if their buds are well set, if not, they should remain under cover a few days longer. Place them

in a situation not too much exposed to the sun at first. Inarchings may now be cut from the old plants.

DAHLIAS should all be planted out this month; beginning immediately for one set, for early flowering; and a second lot for show flowers, about the 20th or 25th of the month; the last will come in just in time for producing superior blooms. Stake up the plants as soon as they are set out, as one violent wind might destroy many of the best.

ROSES should now be planted out in the borders for summer blooming.

VERBENAS should now be turned out into the ground.

HYACINTHS may be taken up the last of the month.

RANUNCULUSES will require now to be top-dressed with a little sand or manure, and occasionally have a liberal watering, should the weather prove dry.

NEAPOLITAN VIOLETS should now be divided and reset for blooming next winter.

AZALEAS should now be removed to the open air, and placed in a half-shady, cool, airy situation.

CARNATIONS and **PICOTEEES** should be speedily planted, if not already done. Seedlings may be planted out now so as to acquire strength.

HEATHS may now be plunged out into a cool, half-shady situation, or be turned out of the pots into a prepared bed, where they will make a rapid growth.

ACHIMENES and **GLOXINIAS** will now need larger pots.

PANSIES may now be propagated from layers or cuttings for a fall stock.

SALVIAS, **SCARLET GERANIUMS**, **HELIOTROPES**, and similar plants, may now be turned out into the open ground, or upon the lawn.

BEGONIAS now shifted, and kept in a warm part of the house, will be beautiful all summer.

GERMAN ASTERS, **BALSAMS**, and other annuals raised in frames, may now be set out in the open ground.

PELARGONIUMS now in bloom, should be kept well watered, and placed in an airy part of the house, near the glass; shade while in bloom.

STEPHANOTUS FLORIBUNDUS should now be kept in the warmest part of the house, and it will grow away very rapidly,—blooming all summer.

CACTUSES will now be in bloom and will require plenty of water.

DOUBLE CHINESE PRIMROSES should now be kept in a cool, airy, half-shaded part of the house, or in a frame facing the north. Cuttings may be put in now.

SEEDLING CALCEOLARIAS should now be shifted into larger pots.

GREENHOUSE PLANTS of all kinds should be removed to the open air, placing them in a half-shady place, where they will not be blown about and injured by high winds.

ANNUALS of all sorts should now be transplanted into the places where they are to bloom.

PERENNIALS, such as **Phloxes**, **Delphiniums**, **Aconitums**, &c., should all be neatly tied up to tall stakes; in this way they always present a much finer appearance.

THE MAGAZINE OF HORTICULTURE.

JULY, 1850.

ORIGINAL COMMUNICATIONS.

ART. I. *The Valley of Lake Champlain,—Its Climate, Productions, &c.* By CHAUNCY GOODRICH, Esq., Burlington, Vermont.

As the valley of Lake Champlain has just been connected with the Atlantic coast by two railroads, forming a part of a line, soon to be completed to Lake Ontario and the great lakes of the West, some account of the valley and its productions may not be uninteresting to your readers.

Lake Champlain extends from Whitehall, (Skeensborough of olden time), lat. $43^{\circ} 23'$, to St. Johns, in Canada, lat. $45^{\circ} 18'$. Its elevation is about one hundred feet above tide water, and the average width about three miles. The widest part, which is opposite Burlington, is less than ten miles. This is a classic lake to every American,—having at all times from our earliest history been the highway from Canada to the river Hudson, and the theatre of more important military and naval operations than any other place in our country. Millions of dollars were expended in building forts on its shores, while the whole country was an unbroken wilderness.

The valley of the lake may average south twenty miles—east about fifty miles, bounded by the Green Mountain range, dividing its waters from the river Connecticut—and west about forty miles, bounded by the Adirondack mountains, dividing its waters from the rivers Hudson and St. Lawrence. The west side of the lake for seventy miles is very broken—but this I shall leave for some resident to describe.

To the base of the Green Mountain range from the lake will average about twenty miles.

The prevailing rock is black slate, sand, and limestone. There is every variety of soil, though a gravelly or clayey loam predominates. There is a large amount of intervale or bottom land on Otter, Winooski, Lamoille, and Missisco rivers and some smaller streams. Springs and small streams are abundant, and for farming land it is the best tract in New England of like extent.

CLIMATE. This may be seen by the following tables. The average mean temperature for the last twelve years has been—

January,	20.06	July,	69.87
February,	19.01	August,	68.43
March,	29.42	September,	58.87
April,	42.07	October,	46.88
May,	54.86	November,	37.17
June,	64.72	December,	24.42
Greatest heat, July 12 and 13, 1849,	.		100°
Greatest cold, January 11, 1848,	.		—25°
Greatest range,	.	.	125°
Average annual range,	.	.	110°

The thermometer rarely falls to 20°—often not lower than 14°. But 17° may be about an average for the lowest point in winter. The lake at Burlington is usually closed about the first week in February, though it sometimes remains open during the winter, as was the case the last season.

RAIN. The average quantity of rain for the last twelve years has been :

January,	1.81	July,	3.70
February,	1.38	August,	3.27
March,	2.21	September,	3.09
April,	1.84	October,	2.32
May,	2.95	November,	2.42
June,	3.25	December,	2.53
Least quantity of rain, 1849,	.		26.35 inches.
Greatest quantity, 1847,	.		38.55 "

The average quantity of snow is about 72 inches, and the time for good sleighing about two months.

The average time for currants to be in full bloom is May 7.

Cherry and plum, " 14.

Apple, " 22.

For these extracts from tables I am indebted to our distinguished naturalist and historian, Rev. Z. Thompson. The observations were made at his residence near the university of Vermont, at Burlington—one mile from, and two hundred and fifty-six feet above, the lake.

By these tables it may be seen that spring and fall are both late. This is caused in part by the formation of the lake. It has a small outlet, and receives no water but what originates in its own valley,—consequently the ice remains until it *melts* out, and, as farmers say, "keeps the fruit blossoms back." Although in blossom the 20th of May, from the 10th to 20th of October is the usual time for picking winter apples. Perhaps in no part of the country is the *apple crop* as sure. There has not been a failure from spring frosts since I have been a resident of the valley, (twenty-three years) and but once a failure of currants, (1834.)

No town on the borders of the lake was permanently settled before the American revolution. A few scattered settlers were in many towns, but they all left, so that in 1783, (sixty-seven years since) settlements were commenced. Every man sowed apple seed and soon planted an orchard, and to encourage it, eight years after, the legislature exempted from taxation all land planted with apple trees, at the rate of forty to the acre. Nearly all of the orchards planted by the first settlers remain, and many have been since planted. With the poor attention the orchards now receive, the valley on the Vermont side is capable of exporting thirty thousand barrels of apples yearly, and with proper attention to the old orchards this amount may soon be doubled.

The early settlers of Canada brought trees of all the best French apples with them, and many pears, plums, &c. When it became an English province many English merchants and farmers settled in and near the large towns, and

brought all the best English apples and other fruits. The principal early export of this valley was lumber, all of which went to Canada.

Many of the most enterprising settlers were engaged in it, who, in their visits to Canada, soon collected most of the French and English apples, many of which are now growing, known only by local names.

Others were brought from the older New England states and New York, with the names lost, and afterwards known by many local names or the general term of "GRAFT APPLES." Probably in no other part of the United States is there so great a variety of superior apples, with the true names unknown, as in this valley. There are numerous seedling or native apples cultivated, each being a favorite with its owner. A few superior seedlings will soon be more generally known. Orchards have been greatly neglected,—and nurseries so much that those who wish to plant many trees are obliged to send abroad for them. But fashions are changing,—nurseries from one to four years old are common, and trees will soon be very plenty. There is also more attention paid to orchards, but less perhaps than any other portion of a farm. All the native or seedling apples of New England which are cultivated here grow well, and also English, French, Prussian or German varieties.

The Newtown Pippin is common in some places, and in good seasons, in favorable locations, is quite perfect; while in cold or wet seasons it is smaller and inclined to be spotted. The same to some extent may be said of the Esopus Spitzenburg,—but it is more hardy than the Newtown Pippin, and is much cultivated. The Yellow Bellflower has grown well and proved hardy in the northern county of the State where old trees are growing.

Pears have been but little cultivated. In some towns there are pear trees on almost every farm planted about sixty years since. They are uniformly hardy. Many of them are still native seedlings, though a considerable portion were grafted when young. Among old pears the St. Michaels, (White Doyenne) is the most common. No pear is here

more healthy. There have been for a few years past many young pear trees planted,—and thousands are now planted yearly. They are generally healthy, but sometimes affected with "*the blight*." The native or Canada plum grows wild the whole length of the valley of the lake. Cranberries are common in the swamps. Plum trees of all kinds flourish and are free from any disease. In some places the *Cureulio* is common, in others unknown.

Peaches are but little cultivated, though some years they are not uncommon. Grapes are common in villages. The *Isabella* ripens but needs protection in winter: The varieties mostly cultivated are the native sorts of New England. *Fastolf*, *Franconia* and *Antwerp* raspberries do not "winter kill."

The western part of Vermont having so easy a communication with New York and Canada, and being divided by a range of mountains from the Eastern, has had but little intercourse with the other parts of New England. Hereafter the course of travel and trade will be much changed.

Burlington, Vt., June, 1850.

ART. II. *The May Bug or Brown Beetle, (Melolontha.)*
By J. W. TUTTLE, *Plattsburgh, N. Y.*

THIS insect has proved more destructive to the plum in this region than the *Curculio*, or indeed any thing else; and yet, strange as it may seem, it has not been mentioned in any work on Fruit culture, to my knowledge, with the exception of the second edition of Goodrich's *Northern Fruit Culturist*, just published at Burlington, Vt.

We often hear the *Curculio* mentioned as *the only* insect destructive to the plum, and I notice that in a recent communication of Dr. Wendell, of Albany, to your magazine, he states such to be the case at that place.

The May Bug commences its depredations about the time the buds begin to open, and continues until the fruit is about

half grown. Its work is done in the evening, commencing about twilight and continuing until about midnight, when it buries itself in the ground under the tree. It attacks first the leaves and then the flowers and young fruit, and appears to be much more numerous in some seasons than others. In 1847 I lost four good-sized plum trees, of the Lombard variety, from the continued attacks of this insect, devouring the entire foliage. In 1848 and 1849 there were but few to be seen. This year they are more numerous than I have ever known them before. I have in my fruit yard some fifty or sixty plum trees, of different varieties, from which I gather from three to six quarts every warm evening. For the young trees, the mode adopted is to pick them off with the hand and place them in a pail partly filled with water, to be subsequently destroyed. For the larger trees, a couple of sheets are sewed together about half way, and so adjusted about the tree as to cover the ground, on which the bugs are shaken, and placed in a pail of water as before.

Now if you will go among your trees in the evening, I doubt not you will find them covered with these bugs, principally on the plum, but occasionally on the apple and pear. The principal damage is done to the plum.

I have read several articles from time to time in which I have seen this bug mentioned as altogether harmless to vegetation, one of which is in the September number of the Albany Cultivator for 1844; and I think it high time the error was corrected, as it is now the most formidable enemy to the plum to be found in this vicinity.

Plattsburgh, June 3, 1850.

ART III. *The Second Session of the Congress of Fruit Growers at New York.* By the EDITOR.

THE second meeting of the Congress of Fruit Growers assembled at New York, in Castle Garden, under the auspices of the American Institute, in October last, and the proceedings have just been published.

We have already given some account of the doings of the Congress, (Vol. XV, p. 513,) and reported the names of the fruits which were adopted for general cultivation. We have also, in our present volume, in our "Pomological Gossip," given some account of the discussion which took place respecting the strawberry and other fruits; and now, with the complete *Proceedings* of the Congress before us, we shall endeavor to present an abstract of all the information which may be valuable to the fruit cultivator.

At the first session of the Congress of Fruit Growers, in 1848, it was voted that the general committee should make out a list of **REJECTED** fruits to be presented for the approval of the delegates; consequently, after the organization of the meeting, this was the first business which came up. The chairman, Mr. A. J. Downing, read the report and the names of the fruits proposed for rejection. After considerable discussion, on motion of Mr. C. M. Hovey, it was voted that the entire list, excepting such as any member might object to, should be adopted by the Congress. The following is the list as finally passed:—

REJECTED FRUITS.

PEARS.

Croft Castle,	Bezi Vaet,
Alexander of Russia,	Bruno de Bosco,
Amiral,	Blanquet à longue queue,
Aston Town,	Burgomaster,
Autumn Bergamot,	Cuvelier,
D'Amour,	Chat Grille,
Angers,	Chair a Dame,
Beurre d'Angleterre,	Charles Van Mons,
Beurre Seutin,	Cassolette,
Beurre of Bolwiller,	Compte de Fresnel,
Bon Chretien d'Esperen,	Copea,
Bon Chretien of Brussels,	Caillat Rosat,
Bergamotte Sylvange,	Clara,
Bergamotte Fortunee,	Clapp,
Beauty of Winter,	Citron de Sirentz,
Belmont,	Dearborn of Van Mons,

Downton,	Millar's Seedling,
Duquesne d'Ete,	Marquise,
Doyenne Mons,	Marcelis,
Deschamp's New Late,	Navez,
Dunbarton,	Orange,
Doyenne Diere,	Orange Tulippe,
Endicott,	Phillips,
Elton,	Pitfour,
Frederic of Prussia,	Platt's Bergamot,
Famenga,	Passe Long Bras,
Forme Urbaniste,	Prince's Portugal,
Fantasie Van Mons,	Pope's Scarlet Major,
Forme des delices,	Pitt's Mariè Louise,
French Iron,	Royal d'Hiver,
Green Yair,	Rouse Lench,
Grisse Bonne,	Rousselett St. Vincent,
Garnstone,	Sans Pepins,
Green Catherine,	Swan's Egg,
Green Sugar,	Surpasse Meuris,
Gros Blanquet,	Saint Bruno,
Green Chisel,	Swiss Bergamot,
Hays,	Souvreine,
Hathorne's Seedling,	Sickler,
Horticulture,	Thompson, of N. Hampshire,
Hastiveau,	Tucker's Seedling,
Ipswich Holland,	Trubserherdz Dulle,
Jargonelle, (of the French,)	Whitfield,
Kramelsbirne,	Winter Orange,
Lincoln,	Wurtzer d' Automne,
Louis of Bologna,	Yutte,
Lederbirne,	Crassane,
Louise Bonne,	Winter Crassane,
Lansac,	Citron of Bohemia,
Madam Vert,	Madotte.

APPLES.

Gloucester White,	Red Ingestrie,
Henry's Weeping Pippin,	White Ingestrie,
Gray House,	Lord Nelson, (Kirke's,)

Marmalade Pippin,	Beachamwell's,
Rowland's Red Streak,	Cathead,
Woolman's Red Sweet,	Caroline, (English,)
Woolman's White Sweet,	Dodge's Early Red,
Golden Reinette,	Fenouillet Rouge,
Pennock,	French Gray Reinette,
Hoary Morning,	Muscovia,
Large Red Sweeting,	Irish Peach,¹
Red Doctor,	Pigeonette,
Grand Sachem,	Salina.

The meeting then took up the list of fruits recommended for general cultivation, commencing with the pears. This list, as finally adopted, we have already given, but for the information of those who may not have seen it, in our last volume, we shall repeat it at the close of this article. Quite a long and very interesting discussion arose upon the merits of the different varieties, which we should be pleased to give entire, did our space allow; but with one extract, in relation to the Buffum pear, we must refer to the proceedings for a full report.

The Buffum pear, being one upon the list of varieties recommended for general cultivation, the following discussion ensued before the vote was taken upon its adoption. We quote this to show what we consider the true qualifications of a pear for general cultivation, those qualifications being a combination of good properties, without perhaps excelling in any particular one. The report, though accurate in the main, contains some errors, and these we have corrected so far as regards our own remarks:—

BUFFUM PEAR.—Col. Hodge had cultivated the Buffum for a number of years, and though he was not prepared to reject it, he could not rank it higher than a second rate pear. It cracked, and the flavor was by no means superior.

Mr. McIntosh, of Cleveland, had also cultivated it for several years, and must say that as to the fruit, it was hardly as good as second rate. But as a *market fruit*, it was of the first quality.

Mr. C. M. Hovey said that this fruit was not of the first quality in respect to flavor, but the variety made a beautiful appearance as an ornamental tree, and it was besides a prodigious bearer, the fruit hanging on the branches like strings of onions. And if seasonably gathered and well ripened, the Buffum pear was nearly as good as the Doyenné. If eaten at the proper time, it was far above a second rate fruit.

Mr. Buist, of Philadelphia, remarked that it would require all the eloquence of gentlemen, and perhaps more, to raise this variety to the rank of a first class fruit. And he considered that what was wanted of this Congress, and what the Congress itself desired, was information as to, and decision upon, fruits, and fruits alone—not in respect to their beauty as ornamental trees.

Mr. S. B. Parsons agreed with the last speaker. The qualities of fruits *as fruits*, it was the object of the Congress to determine, as far as possible.

Mr. Hancock said that in truth the Buffum pear ranked only as fourth rate, as the gentleman from Massachusetts, (Mr. French,) had this morning observed. And if that gentlemen now asked this Congress to recommend it for general cultivation, for one, he, (Mr. H.,) could not do it.

Mr. French knew that the Buffum did not rule as high as many other varieties, but still it was worth cultivating.

Mr. Downing reminded gentlemen that the Convention of last year had determined to cast out all such classifications as *first rate, second rate &c.*, and to adopt the designations of "*good*," "*very good*," "*best*," as more definite and useful.

Mr. French said that then he should call the Buffum a *good* pear.

Mr. Downing observed, in continuation, that this was a list for general cultivation, not one recommended to amateurs alone. If a particular fruit were only *good*, even if that were united with other desirable qualities, productiveness, hardiness, &c., he should be very willing to recommend it for general cultivation.

Dr. Monson thought this a very desirable pear to have when others were scarce. It was a good bearer and the tree

was a beautiful one. Why not have such a variety on the list?

Mr. Hovey said the Buffum was a *very good* pear, though not of the *best* description. But suppose that a person could have but two trees, though there were many better varieties which he would like to cultivate, would he not, on the whole, prefer a tree from which he could obtain four or six bushels of good pears, to one from which he could get only one and a half or two bushels? And having but two trees, would he not desire that one of them at least should be a large bearer? Of what use to a grower of fruit for the market, would be a variety of greater excellence in itself, but of vastly greater inferiority in point of bearing? And even gentlemen, who could afford to suit their fancy, did not want poor looking specimens in their grounds, and must therefore set some value upon the Buffum in consequence of the beauty of the tree.

Mr. Buist said that if this pear should pass muster as being first rate for its bearing qualities, still he could not recommend it as such to his friends.

Mr. Miller, of Carlisle, Pa., said that some thought the rating of a variety depended upon the foliage, others upon the beauty of the tree, and others again upon the quality of the fruit. But surely the list was large enough to combine all these requisites.

Mr. Hancock commented upon the statement that the Buffum was a good fruit for the market. But was he to go to the market to be imposed upon? If the fruit was good he cared nothing for the shape of the tree or what its appearance might be for a pleasure ground; but if he had the finest looking tree in the world, if the fruit was good for nothing, he would throw it under his feet. He would not be one to advocate a fruit of inferior quality under the excuse that he had some trees to sell. He was a fruit raiser, but his friends should never rise up against him charging him with having imposed on their ignorance.

Mr. Downing wished to correct the impression which the gentleman appeared to entertain. If any fruit was not worthy

to be borne on the list, the committee had no wish to press its being put there.

Mr. Barry said that there were several things which entered into the consideration of quality. Flavor was one, and a very important one, but there were others also. And he considered it hardly proper to insinuate anything unworthy or knavish against gentlemen who spoke of fruits, and their qualities as "market fruits." Fruits were raised for the market especially, and they must be. And everybody knew that it was not always true, that a variety which stood highest in point of flavor, bore the same rank on the market list. Take the Rhode Island Greening apple for example, that fruit was not of first rate flavor, but it was so productive, so hardy, and so sure a crop, that we could not do without it. Just so with many other fruits. Flavor was the first quality to be looked at, if gentlemen chose, but there were many others besides.

Mr. Hancock did not differ from the gentleman last up. Let each variety of fruit stand or fall on its merits. He acknowledged good bearing to be a part of the merits, but he would not make that quality a pretext for selling to the simple a fruit as being better than it really was.

Mr. Hovey could not sit silent after hearing the remarks of the gentlemen from New Jersey, though his friend from Rochester had put the matter right before the Congress. Were gentlemen to be accused, because they had trees for sale, of recommending any particular variety? If so, there would be an end to discussion. He repudiated any such idea, and was surprised that the subject should have been mentioned. For one, he believed every member who took part in the discussion spoke from his own experience and with a desire to impart information. In general, persons who cultivate fruit trees did it for what? Orchardists who raised fruits did it for what? Why, to sell in the market? Some very respectable and respected persons in the gentleman's own neighborhood could tell him that, if he were ignorant of it himself. But in determining the value of a fruit for this purpose, saleableness, as well as color, flavor, hardiness, &c., must be estimated in the aggregate of its qualities, and if

it proved to combine a majority of such qualities, then it should be considered as worthy of cultivation.

Mr. French said his only fear now was that this pear would not get into the list. If he could have but one apple, it should be the Rhode Island Greening, though that variety was neither so handsome nor of so good flavor as many others. And so of the Buffum pear; it had its superiors, but it was well worthy of cultivation, and it was a variety which no fruit grower should be without.

Mr. Manning observed that even in regard to flavor the Buffum pear was sometimes found to be nearly first rate. Very much depended on its ripening as to this. But flavor was not the only thing to be considered. Productiveness was another, and not an inferior one in many cases. Gansel's Bergamotte was not to be preferred to the Buffum if only a limited number of trees could be cultivated; for in the one case you would have perhaps half a bushel of very delicious fruit from each tree, and in the other two barrels of fruit, nearly as perfect if properly ripened. He should have no hesitation which to choose in such a state of things.

Mr. Walker was under the impression, long ago, that the Buffum could not be near so good a fruit as he had found it to be within the last five or six years. When ripened under a temperature of 65° or 70°, constant day and night, it attained a very high degree of excellence. Some of the very best judges, not knowing the perfection to which it had latterly been brought, on tasting it at Salem, declared they could not tell what the pear was unless it was an excellent St. Michael. The fruit was very much improved by early picking, and ripening in the house.

The *Buffum* pear was adopted.

The discussion upon strawberries was also interesting, and we have made room for the remarks which were made upon the adoption of the Boston Pine, to show the *premature* character of the reports which have been made in regard to this variety, particularly that of the Committee of the Cincinnati Horticultural Society, which we reviewed two years ago, (Vol. XIV, p. 228.).

BOSTON PINE STRAWBERRY.—Mr. Hancock had had in the course of three or four years only one crop from this variety. It was a good fruit but a shy bearer.

Mr. Pardee had found it at New-Haven a strong and excellent bearer, and the fruit of a delicious flavor. Mr. Terry said it had succeeded admirably at Hartford, with several gentlemen who tried it on different soils. It was esteemed very highly for its mild and agreeable flavor. It was better than Hovey's Seedling, which grew near and was fertilized by it.

Mr. Manice said it grew very well in hills, but not so well in beds; in hills it was a great bearer—better than Hovey's.

Mr. Miller said it was a very pleasant and productive fruit, with a large, fine-appearing berry. It was fully equal to Hovey's, and inferior perhaps to the Black Prince alone.

Mr. French had seen it very fine indeed at Hovey's garden and elsewhere. In 1848 he tried the experiment of cultivating a square yard each with the Boston Pine, the Willey and the Jenney. They were all picked by a careful hand, and the result was—Boston Pine, 1½ pints; Willey, 1 quart, 3 gills; Jenney, 1 quart, 1 gill. Mr. Lines said that after he planted his out, for the first year, the bearing was small; in the second it improved; and in the third it was enormous. It was better to grow the fruit in hills.

Mr. Walker said that for the first year or two he had not been very favorably impressed by the Boston Pine, and had not yet substituted it for the Early Virginia. But what he had seen of it the present year had greatly raised it in his estimation. Grown in hills, he had seen very large crops and fine fruit. By the Massachusetts Horticultural Society, this season, the first and third prizes were awarded to the Boston Pine.

Dr. Monson had cultivated Hovey's and the Methven, and had been perfectly satisfied with them, till he became acquainted with the Boston Pine. He had never seen so prolific a bed as that of this variety belonging to Mr. Terry. He at once engaged plants of him and dug in one half of his Hovey's Seedling to make room for planting them. This

variety was superior in bearing qualities to any that he had seen.

Mr. Hovey remarked that he had preferred to hear what others had to say of this strawberry, rather than to speak of it himself. It had been exceedingly gratifying to him to hear so many commendations of his two strawberries—the Seedling and the Boston Pine. Gentlemen were present from the remotest parts of the country, and they unanimously agreed upon their excellence. The Boston Pine was raised at the same time, and from the same lot of seed, as the Hovey Seedling, in 1834. But after selecting the latter variety, so many others remained of promising quality—and the quantity of land at command being rather limited—that it took some time to give them all, successively, a trial—and it was not until 1844 or '45 that the Boston Pine was first offered to the public. That was its origin.

Mr. H. said he would embrace this opportunity to say a few words in regard to the cultivation of the Boston Pine. One gentleman had remarked that he cultivated his vines in hills; another, his in beds; others, theirs in rows—and all had succeeded equally well. But as one gentleman had said that he did not exactly understand what was meant by cultivating in hills, he would briefly explain.

Gentlemen were probably aware that Hovey's Seedling, the Early Virginia, and other varieties, rarely produced more than three or four trusses of fruit to each root, and then, when grown thickly in beds, produced very good crops. This, however, was not the case with the Boston Pine, generally—the constitutional tendency of the plant being to produce ten or twelve trusses of fruit to each root. One hundred and fifty berries had been counted on a single plant, as the President could testify. The consequence was that when the vines occupied all the ground, there was a deficiency of nourishment, and the berries did not fill up. Hence had arisen many failures in the cultivation of this variety. It required more room than other strawberries, and when grown in rows, with a space of a foot or more between, and that space well manured, the crop was one of the most abun-

dant of all kinds. Cultivation in hills, so termed, was where one or more plants were set out, two or more feet apart each way, the runners kept clipped off, and the ground tilled with the hoe, or, when extensively grown, with the cultivator or plough. Raised in this mode, or in rows, he was satisfied the Boston Pine would prove, as indeed it had already done, all that he had ever recommended it to be, and would meet the expectations of every cultivator.

The question was then put, and the *Boston Pine* was adopted.

The discussion was continued for two days upon the entire list, recommended by the committee, and the following is the list as finally adopted:—

FRUITS WORTHY OF GENERAL CULTIVATION.

(*Added to former List.*)

APPLES.

White Seek-no-further,	Danvers Winter Sweet,
Fameuse,	Wine Apple,
Porter,	Red Astrachan,
Hubbardston Nonsuch,	Vandervere,
Winesap,	Bullock's Pippin,
Lady Apple,	Swaar.

PEARS.

Rostiezer,	Urbaniste,
Belle Lucrative,	Le Curé,
Fulton,	Louise Bonne of Jersey,
Andrews,	Uvedale's St. Germain, for
Buffum,	baking.

GRAPES UNDER GLASS.

Black Hamburg,	White Frontignan,
Black Prince,	White Muscat of Alexandria,
Black Frontignan,	Chasselas of Fontainbleau.
Grizzly Frontignan,	

NATIVE GRAPES—OPEN CULTURE.

Isabella,	Catawba.
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NECTARINES.

Elruge,	Downton.
Early Violet,	

RASPBERRIES.

Red Antwerp,	Franconia,
Yellow Antwerp,	Fastolff.

STRAWBERRIES.

Large Early Scarlet,	Boston Pine.
Hovey's Seedling,	

CHERRY.

Belle Magnifique.

APRICOTS.

Large Early,	Moorpark.
Breda,	

CURRENTS.

Red Dutch,	May's Victoria,
White Dutch,	Black Naples.
White Grape,	

GOOSEBERRIES.

Houghton's Seedling,	Green Laurel,
Woodward's Whitesmith,	Red Warrington,
Crown Bob,	Green Gage,
Red Champagne,	Green Walnut,
Early Sulphur,	Ironmonger.

**NEW VARIETIES—WHICH GIVE PROMISE OF BEING WORTHY TO BE
ADDED TO THE LIST FOR GENERAL CULTIVATION.**

PEARS.

Duchesse d'Orleans,	Pratt,
Brandywine,	Ott,
Chancellor,	Striped Madeleine,
Doyenné d'Été,	Ananas d'Été,
Beurré d'Anjou,	Jalousie de Fontenay Vendée,
Manning's Elizabeth,	Van Assené,
Brande's St. Germain,	Doyenné Boussock.

PLUMS.

McLaughlin,	St. Martin's Quetsche.
Rivers's Favorite,	

STRAWBERRIES.

Burr's New Pine,

Jenney's Seedling.

RASPBERRY.

Knevett's Giant,

GRAPE—NATIVE.

Diana.

Reports accompany the "Proceedings" from the following States:—Pennsylvania; New York; Massachusetts; Vermont; Connecticut; Maine; Ohio; Missouri; Iowa; Kentucky; District of Columbia; Virginia; Georgia.

We shall take the opportunity to make some extracts from these reports, under our Pomological Gossip and Domestic Notices.

The Congress, after passing the usual vote of thanks to its officers, adjourned to meet at Cincinnati, Ohio, next autumn.

ART. IV. *How to Prune the Filbert.* By Mr. R. THOMPSON, Superintendent of the Orchard and Kitchen Garden Department, of the London Horticultural Society. From *Gardeners' Chronicle*.

It is somewhat surprising that a nut so very generally esteemed and at the same time so easily raised, should not have received more attention, and been more extensively introduced into our gardens. In England, great quantities of land are devoted to the growth of the filbert, and in the county of Kent, alone, hundreds of acres are planted with the trees, the average yield of which is upwards of a thousand pounds of nuts per acre. They are brought to the principal markets in great quantities, and while young, before their shell becomes hardened, are considered an indispensable addition to the dessert.

There are several kinds of the filbert, which are improved varieties of the common, or wild hazel of Europe. But the sorts now generally most esteemed and cultivated

originated in English gardens. These are known as the Cosford, Frizzled and White filberts. They are abundant bearers and fine-flavored kinds. We have had them in fruit for four or five years, and although we have bestowed but little pains upon their pruning, yet we have had a fair crop of nuts from a few trees.

But to raise the filbert to advantage and profit it is requisite that the pruning of the trees should be fully understood; without this, the produce would be small. It is from this circumstance that the Kent growers are so successful in raising the filbert. Rogers, an old practical gardener and author of an excellent little treatise called the *Fruit Cultivator*, in speaking of the cultivation of the filbert, makes the following very just remarks, which may be applied to other operations in gardening as well as that to which the author alludes:—

“It may be a matter of wonder, but so it happens, that the generality of gardeners know little, or nothing, about pruning the filbert trees. The art has never been studied either by masters or men, and it is remarkable that this branch of the pruner’s art should have been brought to perfection by the untaught, unlettered Kentish peasant—without books—without master, save experience—without mistress, save nature herself! It is curious too, that this art has been engrossed by the laborers in the central part of the country, and without its being followed in other parts of the kingdom. The knowledge seems to have descended from father to son, for generations, and a very useful portion of rustic knowledge it is. Here the author begs to observe, how much more valuable is the knowledge which has been gained by the mere dint of practical experience, compared with that emanating from theoretical writers, who bury what they really know of practical matters, beneath a load of hard names and learned quotations, which only serve to puzzle rather than inform the reader. So much of this kind of writing is now extant, that, though read over and over again, and even committed to memory, the reader would not be so wise during his whole life (especially as respects the pruning

of the filbert) as a visit to Maidstone would make him in an hour."

From this it will be seen that the main thing in the successful culture of the filbert is the pruning of the trees; and though, as Mr. Rogers says, one hour's inspection of the trees properly pruned, will convey more information than could be learned in a life-time by reading, still, with the illustration which accompanies Mr. Thompson's article, we think the cultivator may begin in the right track, and with a little practice manage his trees so as to produce an abundance of nuts. We only hope our remarks, in connection with those of Mr. Thompson, will not only induce gentlemen who possess a good garden, to introduce a few filbert trees, but may be the means of bringing this neglected fruit into more extensive cultivation:—

PRUNING.—THE FILBERT TREE.

The filbert tree is one of those which does not contain all the parts necessary for the production of fruit in the same bud. Some buds develop only the male parts, and others only the female; the former are comprised in those pendent yellow catkins, easily recognized in the end of winter and early spring. The female portions are less conspicuous; all that appears of them are some slender, deep-crimson stigmas, protruding beyond the apex of the buds, as represented at *b b*. On these, fertilizing particles from the catkins either fall naturally, or are otherwise brought in contact with them whilst being blown about by the winds; and fruitfulness is the result. If, on the contrary, there are no catkins, or if they are prematurely cut away in pruning, there can be no fruit. Pruning should not be commenced till after the appearance of the crimson stigmas at the apex of such buds as *b b*, and after the full expansion of the catkins. When the latter have fulfilled their purpose, they fall off. After fertilization, the buds *b b* elongate into a twig much the same as other buds; but towards midsummer the formation of the cluster can be seen. The cluster is always terminal. When catkins are wanting on the cultivated trees, those of the

common hazel, when they are fully expanded, may be hung on the branches.



Fig. 14. *The Filbert Tree.*

a a a, wood buds; *b b*, blossom buds.

planted in nursery beds (being first shortened to 10 or 12 inches,) where they remain three or four years. They are slightly pruned every year, in order to form strong lateral shoots, the number of which varies from four to six. But

The county of Kent has been long celebrated for the production of large crops of filberts. That mode of pruning must be good which has been successfully practised for generations; and we therefore cannot do better than give the method pursued by the Maidstone cultivators, as it is minutely detailed by the Rev. Wm. Williamson in the 4th volume of the first series of the Transactions of the Horticultural Society. The author of the communication treats the cultivation of the filbert under the following divisions: *Soil, Raising the Plants, Manure and Pruning*; which last, he adds, forms the great distinction between the cultivation in Kent and in other counties.

"The suckers are taken from the parent plant generally in the autumn, and

though it is the usual practice to plant the suckers in nursery beds, I would advise every one to plant them where they are to remain, whether they are intended for a garden or a larger plantation ; and after being suffered to grow without restraint for three or four years, to cut them down within a few inches of the ground. From the remaining part if the trees are well rooted in the soil, five or six strong shoots will be produced. Whichever method is practised, the subsequent treatment of the trees will be exactly the same.

“In the second year after cutting down, these shoots are shortened ; generally one third is taken off. If very weak, I would advise that the trees be quite cut down a second time, as in the previous spring ; but it would be much better not to cut them down till the trees give evident tokens of their being able to produce shoots of sufficient strength. When they are thus shortened that they may appear regular, let a small hoop be placed within the branches, to which the shoots are to be fastened at equal distances. By this practice two considerable advantages will be gained—the trees will grow more regular, and the middle will be kept hollow, so as to admit the influence of the sun and air.

“In the third year a shoot will spring from each bud ; these must be suffered to grow till the following autumn or fourth year, when they are to be cut off nearly close to the original stem, and the leading shoot of the last year shortened two-thirds.

“In the fifth year several small shoots will arise from the bases of the side branches which were cut off the preceding year ; these are produced from small buds, and would not have been emitted had not the branch on which they are situated been shortened, the whole nourishment being carried to the upper part of the branch. It is from these shoots that fruit is to be expected. These productive shoots will in a few years become very numerous, and many of them must be taken off, particularly the strongest, in order to encourage the production of the smaller ones ; for those of the former year become so exhausted that they generally decay ; but

whether decayed or not they are always cut out by the pruner, and a fresh supply must therefore be provided to produce the fruit in the succeeding year. The leading shoot is every year to be shortened two-thirds, or more should the tree be weak, and the whole height of the branches must not exceed six feet.

"The method of pruning above detailed might, in a few words, be called a method of spurring, by which bearing shoots are produced, which otherwise would have had no existence. Old trees are easily induced to bear in this manner, by selecting a sufficient number of the main branches, and then cutting the side shoots off nearly close, excepting any should be so situated as not to interfere with the others, and there should be no main branch directed to that particular part. It will, however, be two or three years before the full effect will be produced. By the above method of pruning, 30 cwt. per acre have been grown in particular grounds and in particular years, yet 20 cwt. is considered a large crop, and rather more than half that quantity may be called a more usual one; and even then the crop totally fails three years out of five; so that the annual average quantity cannot be reckoned at more than 5 cwt. per acre.

"When I reflected upon the reason of failure happening so often as three years out of five, it occurred to me that possibly it might arise from the excessive productiveness of the other two. In order to ensure fruit every year, I have usually left a large proportion of those shoots which, from their strength, I suspected would not be so productive of blossom-buds as the shorter ones; leaving them more in a state of nature than is usually done; not pruning them so closely as to weaken the trees by excessive bearing, nor leaving them so entirely to their natural growth as to cause their annual productiveness to be destroyed by a superfluity of wood. These shoots, in the spring of the year, I have usually shortened to a blossom-bud."

That style of pruning which is found the best for the currant, is also considered, in general, the best for the filbert. The Maidstone growers prefer plants raised from layers, and

which have been bedded out in the nursery for two or three years. Each plant should have one strong upright shoot, which after the final planting should be cut back to eighteen inches; this will admit of one foot of clear stem, above which height shoots should be encouraged, to form the head. Six branches will be a sufficient number. Their leaders should be annually shortened, in order to make them throw out laterals. They should be trained in form of a goblet, or somewhat approaching thereto. This is merely a mechanical operation.

With regard to the management of the laterals, no precise rule can be laid down. It must be varied according to the nature of the soil, and the greater or less humidity of the climate. If the soil is rich and moist, strong shoots, too strong for any but wood-buds being formed on them, will be produced. Instead of the fruitful laterals produced on the Kentish soil, rod-like walking canes will be produced when the plants are grown in many other parts of the kingdom. They must be cut back, otherwise they would form strong cross branches; but then we must consider that each of these rods, with their ample foliage, has contributed to the formation of roots during the summer; that these roots will be adequate to supply nourishment in the following season to all the shoots made in the present season; but when the shoots are necessarily reduced, say more than one half, either by shortening or cutting out entirely, then the remaining portion has more than double the quantity of roots necessary for its nourishment; and it will, in consequence, be stimulated to grow with excessive luxuriance. There are two ways by which the excessive luxuriance may be prevented by pruning, namely, by summer pruning and by root pruning.

As the roots are formed by the action of the leaves, it is evident that the fewer leaves there are on a plant during the summer of 1850 the less will be the quantity of roots formed in that period; and just so much diminished will be the contributors to luxuriance for the summer of 1851. By winter pruning we reduce the subjects to be fed, but not the feeders; but by summer pruning we proportionately reduce both,

and that to any extent that may be found necessary. Therefore, when the laterals are likely to prove too luxuriant, check them in the early part of the season; when they have made 6 or 8 inches in length, pinch off their tops; and when they push a second time, pinch them back to the first bud formed by the secondary shoot. In the following spring cut them back to a female blossom bud, if any; but otherwise, spur them nearly close to the branch. By the annual repetition of such proceeding, fruit will ultimately be obtained; and the fruiting will be a check to over-luxuriance. If root-pruning be resorted to, it should be performed in the autumn.

Suckers should be carefully removed; or rather they should be eradicated as soon as they make their appearance, if this can be done without injuring the roots; otherwise autumn or beginning of winter is the best time for laying bare the roots for some distance round the stem of the tree, and thoroughly clearing off all vestiges of suckers.

ART. V. *Pomological Gossip.*

THE STANWICK NECTARINE. In our last number we announced that the stock of this new nectarine was about to be offered at public auction, for the benefit of the Benevolent Institution for the Relief of Infirm Gardeners. We notice by the latest journals that the amount realized from the sale of TWENTY-FOUR trees, was £164 17s., (upwards of \$800.) The following are the names of the purchasers, which we give, that those of our nurserymen, or amateurs, who may be ordering plants, may know who have the genuine kinds:—

Lot 1.—£7 17s. 6d.—Mr. Low, Clapton.

2.—10 10 0 — “ “

3.—8 8 0 —Messrs. Whitley & Osborne, Fulham.

4.—6 16 6 —Messrs. Henderson, Pine-apple place.

5.—10 10 0 —Messrs. Whitley & Osborne, Fulham.

Lot. 6.—£7 17s. 6d.—Messrs. Hurst & M'Mullen, Leadenhall street.

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|------|---|----|---|--|
| 7.— | 8 | 18 | 6 | —Messrs. Veitch, Exeter. |
| 8.— | 7 | 7 | 0 | —Mr. Turner, Slough. |
| 9.— | 4 | 14 | 6 | —J. H. Barchard, Esq., Putney Heath. |
| 10.— | 3 | 13 | 6 | — “ “ |
| 11.— | 5 | 15 | 6 | —Mr. Ingram, Gardener to Her Majesty, at Frogmore. |
| 12.— | 4 | 14 | 6 | —Messrs. Youell, Great Yarmouth. |
| 13.— | 7 | 17 | 6 | —Mr. Gaines, Battersea. |
| 14.— | 9 | 9 | 0 | —The Earl of Derby. |
| 15.— | 5 | 5 | 0 | —R. Hanbury, Esq. |
| 16.— | 8 | 18 | 6 | —Messrs. Lee, Hammersmith. |
| 17.— | 7 | 7 | 0 | —S. Rucker, Esq., Wandsworth. |
| 18.— | 6 | 16 | 6 | —Messrs. Lucombe, Pince & Co., Exeter. |
| 19.— | 4 | 4 | 0 | —The Earl of Harrington, Elvaston Castle. |
| 20.— | 2 | 2 | 0 | —Mr. Denton. |
| 21.— | 6 | 6 | 0 | —Messrs. Henderson, Pine-apple place. |
| 22.— | 7 | 7 | 0 | —Mr. Gaines, Battersea. |
| 23.— | 6 | 6 | 0 | —Mr. Glendinning, Turnham Green. |
| 24.— | 5 | 15 | 6 | —Messrs. Knight & Perry, King's road, Chelsea. |

£164 17 0

The *Chronicle* also remarks, "We give this list for two reasons; firstly, that the friends of the charity may see how effectually the operation is likely to benefit the funds; and secondly, that the public may know who the nurserymen are that can hereafter supply the variety. A further and larger public sale will take place early in next autumn, on behalf of the charity, on which occasion Mr. Rivers expects to have 500 young plants propagated; and no other genuine plants can be offered at that time. The earliest specimens which it is probable that the trade can offer, will be maiden plants in the end of 1851. It is desirable that this should be known, in order that those who have come forward liberally on the present occasion may receive all the advantage which can arise from the transaction."

PROSPECTS OF THE FRUIT CROP. In our last we alluded to the prospect of an abundant fruit crop, believing that after such a prolific blossom, unattended with frost, that no other casualty could possibly affect the trees. Everything promised well, until just at the period when the blossoms began to fall; a long and continued spell of rain, accompanied with an easterly wind, appeared to bruise and shatter the flowers, but did not seem to injure them; but as soon as the petals began to drop, and some of them did so prematurely, we observed that much of the fruit had not set at all, and a great portion of that remaining was spotted with mildew as if it had been injured by the damp weather. Up to this time the fruit has continued to fall to such an extent, indeed, that in some instances, on trees which were one sheet of flowers, not a solitary pear remains. This effect has been, we believe, produced throughout the State; at least, our friends in Springfield inform us the pears have suffered so there. What the real cause is, of such a failure, we should be glad to know. Our supposition is, that the long continued rain, accompanied with a raw easterly wind, and a complete saturation of the soil with water, from the excessive quantity of rain which fell in April and May, prevented the trees from making a free growth and throwing off the superabundance of sap which they had accumulated by the moisture of the earth. We should be glad to hear from our correspondents on this subject.

THE NORTHERN SWEET APPLE. In our January number, (p. 36,) we noticed this apple, which was exhibited at the Pomological Congress last fall. Mr. Barry, in the *Genesee Farmer*, pronounces it identical with the Munson Sweeting, a well-known sweet apple, cultivated in the western part of Massachusetts. In regard to the correctness of Mr. Barry's opinion we have had no opportunity of knowing, but Mr. Battey, in a recent letter to us, makes the following remarks respecting the identity of the two sorts:—

“As to the identity of the ‘Northern Sweet,’ with the ‘Munson Sweeting,’ I think that friend Barry of the *Genesee Farmer*, and his ‘friends of Western Massachusetts,’ are alike in error.

"Having exchanged scions with Jesse Storrs of Marathon, N. Y. for the purpose of testing the matter, by fruiting both on the same tree, I observe that they are entirely distinct in the character of the bark and young wood,—quite as much so as the Baldwin and Porter, [two sorts as distinct as any other two apples.—*Ed.*] J. Storrs says that the Munson Sweeting is a month later,—and, in his opinion, unlike in several particulars. The question, however, is now in a fair way to be settled, definitively—as I now have the Munson Sweeting growing on the top of a bearing tree of the Northern Sweet, and he (J. Storrs) has the Northern Sweet under a similar trial. The result will be communicated to the public as soon as the grafts shall have borne fruit.—Respectfully yours, J. BATTEY."

THE EARLY PURPLE GUIGNE CHERRY. This valuable early cherry has been quite overlooked among the multitude of kinds which have been introduced into our collections. Full as early as the May Bigarreau, larger in size, and equal in flavor, it deserves to be very extensively cultivated, and must claim the rank of being *the best early* cherry yet known. We have long been acquainted with it through the *Transactions* of the London Horticultural Society, where it is beautifully figured, and fully described by Mr. R. Thompson; and we have had a tree of it in bearing in our collection, these three years; but owing to the destructive and gormandizing robins, we have never succeeded in getting a ripe cherry till this year, when we were astonished to find it such a superior fruit. Two or three branches which we "bagged up" with muslin, have been loaded with cherries, and we are glad to have the opportunity of presenting it to our amateur cultivators in our *Fruits of America*, where it will be figured in the *twelfth* and closing No. of the **FIRST** volume. Another equally fine variety, and full as little known, the *true* Arch Duke, will be figured in the first number of the **SECOND** volume.

Owing to the depredations of the birds, we have hitherto been deprived the opportunity of describing several kinds of cherries, which, though long in cultivation, are but little

known. Disappointed so often, we have resorted to the "bagging up" system, (noticed at page 166,) and by this means we shall now be enabled to give accurate descriptions of all the fine sorts extant, having trees now in fruit of more than *sixty* sorts.

ART. VI. *Cultivation of the Cyclaman.* By VANESSA.

THE genus cyclaman is a delightful little family of plants, requiring little trouble in cultivation, and producing flowers of various colors every month in the year. Some of them are very fragrant, and although, as far as outward appearance is concerned, they may present little claim for admiration when compared with many of their more gaudy compeers, and, like many other objects of real worth and usefulness, might be passed unnoticed, did not their presence become impressed upon our senses by their pleasing and agreeable odor, yet, they are among the prettiest ornaments of the garden. For the amateur who wishes to make the most of the little room he may have, a few of the different varieties of cyclaman will give great satisfaction, and will afford interest which can only be duly appreciated by those who give them the little attention they require.

They all seed freely, and this is perhaps the best way of increasing a stock. The tubers are frequently divided for this purpose, but it is not a good or safe practice, for, even if such pieces live, they take a long time to recover from the effects of the wound, and perhaps die altogether after two or three years' trouble.

The seeds should be sown as soon as ripe ; if kept any length of time, few of them will vegetate. The soil in which they are sown should be well drained, of a light, porous texture ; a mixture of peaty soil and leaf mould is very suitable. The early flowering of the young tubers depends a great deal upon the nature of the soil in which they are grown. If strong, retentive soil be used, they will not flower until the fourth or fifth year ; whereas, in a light soil, they will gener-

ally flower the second year, and sometimes sooner. Seeds of the *C. persicum*, sown in June, have flowered the following March.

They will vegetate freely in a close frame if in spring or summer, and those sown in autumn should be placed in the greenhouse, watered sparingly until spring, increasing the supply as the season advances; about the month of June following, the latter will be strong enough for transplanting. Those sown in summer will be better to remain undisturbed until the following spring. The strongest may be potted singly into small pots; the smaller, transplanted into pots or boxes two or three inches apart, according to the size of the tubers. They require to be kept in a close atmosphere until they recover the effect of removal; afterwards give abundance of air.

The general treatment of old tubers is very simple. As already mentioned they seem to grow best in light soil. A mixture of equal parts of light turfy loam and peat earth, or leaf mould, will grow and flower all the varieties in perfection. The pots should always be at least twice the size of the diameter of the tuber, thoroughly clean and well drained. The tubers should never be entirely covered with the soil; one third at least should be left exposed: this keeps the roots near the surface, and prevents the tubers from rotting, a very probable circumstance at some seasons when they are deep potted. Before putting them into fresh pots, shake away all the old soil, and keep them in a warm moist atmosphere until they are well started into growth.

Always water sparingly when they are starting to grow, increasing the supply as they approach to a flowering state; diminish gradually as the leaves decay, and finally give them a season of rest by keeping them nearly dry. Some cultivators withhold water entirely, others shake them out of the soil as soon as the leaves decay. The latter method is not commendable, and the former only with those sorts that rest in winter. If the summer resting sorts do not get the soil moistened occasionally about their roots, they will be almost sure to get over-dried before being potted, and be of little value the following season, if not entirely destroyed.

CYCLAMAN PÉRSICUM, and its varieties, have flowers of various colors from red to white, in bloom from January to May ; some of the varieties of this are highly odoriferous.

C. REPÁNDUM.—Flowers red. April, May.

C. VE'RNUM.—Flowers reddish purple, produced from November to January.

C. HEDERÉFO'LIUM.—Pink flowers, fragrant, in bloom from March to May.

C. COUM.—Flowers light red. December, March.

C. NEAPOLITANUM.—Flowers rose color. July, September.

C. EUROPEUM.—Flowers light red. July, October.

It will be seen that while the two last mentioned sorts are in flower, the others will be in a state of rest, but such sorts as vérum and coum can be had to flower in October by potting the roots about the end of July ; they must not, however, either be excited too rapidly, or watered too freely, or the leaves will be too tender to stand the damp of the winter months.

C. persicum is a native of Cyprus, in Persia, and is not so hardy as some of the others ; it must at all times be carefully watered, more especially during winter, and before coming into flower, as it is very liable to decay.

Baltimore, May 27th, 1850.

MISCELLANEOUS INTELLIGENCE.

ART. I. *General Notices.*

ROSES.—Now that we have got through a severe and fluctuating winter, I beg to inform you, (as I intimated in a former communication which appeared in vol. I, No. 25, of your valuable journal,) how our roses have weath-ered the winter. This garden, as you are already aware, is situated about 3 miles north of the Frith of Forth, and is 352 feet above the level of the sea. The natural surface soil of the garden consists of a strong, deep, adhesive loam, rather approaching to clay ; the subsoil brown, thin, and crop coal, highly impregnated with iron ore. Of late years the whole garden has been rendered sufficiently dry by means of thorough drainage, and deep ridge trenching, and the borders and clumps appropriated for the cultivation of roses, were highly manured and limed previous to their being planted. The collection of roses at this place, is now both extensive and well selected, and are planted in groups according to the classification given by Mr. Paul,

in the "Rose Garden," a work which is most useful and interesting, and of great advantage in assisting the private rose-grower in selecting and arranging the various varieties of this beautiful and interesting family, the "Queen of Flowers." All the different varieties, whether as standards or dwarfs, are with us perfectly hardy, (the Chinese, Teas, and a few of the Bourbons, excepted,) and require no protection whatever, further than a good dressing of rotted muck over their roots before the approach of frost, which, on the return of favorable weather in spring, is either raked off, or dug into the ground. For these varieties we prefer pruning pretty early in winter, as the plants are then less liable to be tossed about, and shaken with the winds, which, in this locality, are very prevailing during that season.

Those borders and clumps that contain the more tender varieties are, in the autumn, covered over with a layer of half-rotted leaves, about 6 inches thick, and on the approach of frost, or hard cutting winds, we stick in short, stiff, spruce branches all round the sides of the borders or clumps, and in amongst the plants, which remain all the winter—excepting that we remove them at intervals, for a day, during favorable weather, in order to refresh the plants, and to dry them of the mould and damps, which, under such circumstances, the plants are particularly liable to, and if not removed by the above means, proves very detrimental. In spring these branches are removed by degrees, as the state of the weather may warrant us in doing so. The surface covering is also removed by degrees, while on some sorts it remains all the summer, to serve as a mulching against drought: for these varieties we adopt pruning in spring, but not until vegetation has fairly commenced in the plant. By these simple means, we have for the last two winters, been able to produce nearly 300 plants of what are termed "Tender Roses," while the loss has been very trifling; this season we have only lost two plants, *Narcissus*, a tea-scented variety, and *Vicomte de Cussy*, a Bourbon. Being of opinion that very many of those truly exquisite roses are better calculated for filling small figures in the flower garden, than many other things which are at the present time used for that purpose, we, last autumn, propagated extensively from such varieties as *Mrs. Bosanquet*, *Madame Guerin*, *Clare*, *Belle Allemande*, *Bride of Abydos*, *Caroline*, *Comte de Paris*, *Devonensis*, *Madame Roussell*, *Niphetos*, *Reine de Belgic*, *Souvenir de la Malmaison*, and many others, of which I have now fine strong plants, which I intend planting out, along with verbenas, and other things of a like nature. Should the result be satisfactory, I shall communicate it to you in due course.—(*Jour. of Hort.*, 1850, p. 314.)

CULTIVATION OF THE STRAWBERRY FOR FORCING.—"The great secret with pot plants," that is, those intended for forcing, "is to get them strong and well rooted before winter. Where only a small number is grown, the following is undoubtedly the best plan of proceeding:—Take pots 8 inches deep, place an oyster shell at the bottom of each, and on this put a good handful of soot; then fill up the pots with a compost consisting of half strong loam and half light rich mould. The mixture ought to be moderately dry, for if wet mould be put into the pots, it is very often the cause why plants do not thrive. Carry the pots to the strawberry runners, place one in

the centre of each pot, and have a basket of small stones at hand, so that one may be laid on each runner, just behind the plant, in order to keep it steady, until it has taken root." When large numbers are required, Mr. C. advises to prepare the pots as above, and then to plunge them to the rim in a piece of vacant ground; "then, on the first dull day, I cut off the runners, merely removing the strings, and by no means cutting the roots or the tops, for both those operations are injurious to the young plants." Mr. C., on commencing forcing, begins with a very low temperature, increasing it at the rate of about 3° weekly. "When plenty of air is given at all times," he says, "strawberries will set in a heat of 70°, while, if kept without or under such a temperature, many flowers will be more or less blind, and what fruit does ripen will be badly formed." Mr. Cuthill's mode of forcing, without using pots, is by taking the runners off as soon as they are well rooted, planting them in a bed of well prepared soil, supplying them liberally with water during autumn. In February, "they are taken up with good bulbs, and planted 8 or 10 inches apart, each way, in a frame or pit. They are then brought on gradually, and, strange to say, after they have set, they thrive well with a bottom heat, fit for the cucumber." After the crop is gathered, the plants are either planted out at once, or kept in the pots "until the ground becomes vacant for the next year's crop, and for the runners for the present year's potting." One plant only is put in a pot, and runners from pot plants bear a week earlier than those of plants that have never been in pots. The British Queen is treated as follows:—"Plant the runners out in beds, 4 inches apart each way, and in the spring cut off all the blossoms. Take them up in August, and remove a few of the upper leaves in order to induce the plants to form top roots. The winter treatment is of great consequence. Never give a drop of water from November, and from being kept quite dry, nearly all the large leaves die off. During this time, the plants may be kept under glass in pits, or stacked up on their sides against a wall out of doors." For strawberries out of doors, Mr. C. recommends trenching the ground well, and planting the runners a foot apart each way. By this means a good crop will be secured the first year, and after this has been gathered, every second row should be cut away with the spade, leaving the others for the second year; after this, they should be destroyed as soon as they have produced enough of runners for a new plantation.—(*Id.*, 1850, p. 284.)

CULTURE OF THE CAMELLIA.—In compliance with your request, I now send you a few remarks on the culture of my camellias and rhododendrons, which you considered somewhat remarkable for their size and healthy appearance. In preparing the mould for the camellias, I direct the one-half to be a rich yellow loam, a third of sandy peat earth, with a mixture of river sand, about a tenth part, and the rest of vegetable earth, consisting of rotten leaves. These are all well mixed together. Next the drainage of the pots or tubs is particularly attended to. If a pot is well drained, the earth will never stagnate, nor the roots of the plants perish whatever quantity of water may be given. The utmost attention should be paid to the watering. Most gardeners are accustomed to a certain routine of watering, and at certain hours; and this they deem sufficient, without ever considering the tempera-

ture, or the effect of the sun's heat in causing evaporation. I give my large camellias generally double the quantity of water that gardeners are disposed to allow. But, I believe their healthy appearance depends very much upon the *liquid manure*, and water from the cess-pool, diluted about half and half with rain water; give them, perhaps, once in the fortnight, and at this season, when they are in a state of vigorous youth, once a week. The same treatment is applied to rhododendrons. The mould for them should be one-half sandy part, one-third loam, and the rest of rotten leaves, with some river sand. I think it is of great advantage, though rather offensive to the eye, to spread over the surface of the earth in the pot or tub, cakes of half-rotten leaves. These tend to keep the surface moist, and also afford excellent nourishment to the roots. I believe one half of the plants that perish is owing to a neglect of proper draining and inattention to watering when the plants require moisture. This is particularly the case with the tribe of *Ericæ* and also of camellias. I never like to see a plant hanging its ears, and telling a careless gardener that he is neglecting to give it its necessary nourishment. If the roots are allowed to remain too long in a dry state, they will infallibly perish. I do not recollect if you observed some fine specimens of the *Pinus Cembra*. I have two or three, about 15 feet high, and a noble plant of the *Pinus Pinaster*.—(*Id.*, 1850, p. 282.)

LIST OF GRASSES AND THEIR QUANTITIES, FOR FINE LAWNs.

Scientific Names.	Light Soils.		Medium Soils.		Heavy Soils.	
	With a Crop.	Without a Crop.	With a Crop.	Without a Crop.	With a Crop.	Without a Crop.
<i>Avena flavescens</i> ,	lb. 1	lb. 1	lb. .	lb. .	lb. .	lb. .
<i>Cynosurus cristatus</i> ,	5	5	6	6	7	7
<i>Festuca duriuscula</i> ,	3	3	3	3	4	4
“ <i>tenuifolia</i> ,	2	2	2	2	1	1
<i>Lolium perenne tenuis</i> ,	18	20	18	20	18	20
<i>Poa nemoralis</i> ,	1½	1½	1½	1½	1½	2
“ <i>sempervirens</i> ,	1½	1½	1½	1½	1½	2
“ <i>trivialis</i> ,	1½	1½	1½	1½	1½	2
<i>Trifolium repens</i> ,	6	7	6	7	6	7
“ <i>minas</i> ,	2	2	2	2	1	1
	40½	44½	41½	45½	42½	46

In cases where primary expense is deemed secondary to ultimate effects, 2 lbs. of the evergreen wood meadow-grass may be added to each of the above columns; and where the ground is shaded by trees, both *Poa nemoralis* and that variety should be substituted for similar quantities of the two *Fescues*, such quantities being dependent on the extent and depth of the shade.

In walks, bowling-greens, &c., which are wished to be kept as dry as possible, especially towards the end of the season, *Trifolium repens* should be sparingly introduced; and when it is intended to mow the grass by ma-

chine, instead of the common scythe, greater proportions of the hard and fine leaved *Fescues* may be sown.—(*Id.*, 1850, p. 283.)

THE STANWICK NECTARINE.—In November, 1848, I had some young peaches potted, which had been raised from seed the preceding summer; intending to try an experiment in grafting peaches, (it may be mentioned that they are invariably budded,) the Stanwick nectarine happened to run to mind, and I thought my peach stocks might possibly be turned to good account, by grafting the shoots of that rather than of peaches. I therefore wrote to the gardener at Stanwick, to send me the prunings of the tree in lieu of, as usual, consigning them to the rubbish heap. The shoots were received in December, and immediately grafted on my peach stocks in pots; nearly 200 were, I think, grafted, placed in a cool house, secure from frost, and towards the end of January removed to gentle bottom heat, over a tank; they seemed at one time as if every graft would grow. But, after making a shoot nearly an inch in length, they gradually died off, so that in the end only 25 were left. Twenty-four of these were sold on Wednesday last, and realized such prices as were never yet heard of for small trees of a nectarine. What a solid benefit has thus resulted from a few apparently worthless shoots, and what a lesson to us gardeners never to despair, but to "try and trust."—(*Gard. Chron.*, 1850, p. 310.)

CULTURE OF THE CHRYSANTHEMUM.—It has been acknowledged by all who have witnessed the chrysanthemum exhibition of the Norfolk and Norwich Horticultural Society, that in no county in England is this beautiful autumnal flower exhibited in a higher state of perfection than in Norfolk, and having received numerous letters of inquiry respecting the mode of cultivation pursued, we have taken advantage of your columns in giving publicity to the same. We do not wish it to be understood that every exhibitor pursues this precise method of treatment, but it is such as we ourselves adopt, and we venture to say, that if carried out, it will ensure dwarf plants from 1½ to 2 feet high, covered with rich dark-green foliage, and carrying blooms from 5 to 7 inches in diameter. In the last week in May we select the tops of the strongest shoots for cuttings, putting four or five round the edge of a 3-inch pot, and placing them in a gentle warmth; when rooted they are potted singly in the same sized pot, and kept in a close frame for a few days, until they have become established; the tops may then be pinched out, leaving five or six joints to remain for lateral shoots; after a few days' hardening off, they are then removed to an open situation, allowing the plants a sufficient distance from each other to prevent their drawing, care being observed that they do not suffer from want of water. About the third week in July we shift, for blooming, into 7-inch pots, using a small handful of coarsely broken bones at the bottom. The soil we use consists of equal parts of well-decayed (one year old) pig manure, turfy loam, and leaf mould, adding half a barrowful of peat and half ditto of road drift to every four barrows of the above. When potted, they are placed in rows, 2 feet apart, and they require but little attention, except watering, for two months; at the expiration of this period, we commence watering twice a week, with liquid manure, made with one bushel of fresh pig manure, (free from straw) to

about 80 gallons of water; this will be ready for use in two or three days. As soon as the plants show flower-buds, we tie each shoot to a stick, and train them fan-shaped. Disbudding ought now to be attended to, reserving only one, or at most two, at the top of each shoot; but where two are left, it is better to take out the second bud and leave the third, to prevent confusion. As soon as the buds show color, the plants are then removed to the greenhouse or conservatory, giving plenty of air, and substituting water for liquid manure. We ought to have mentioned, that, where a profusion of bloom is required, two or three plants may be inserted in the pots where only one is usually grown; this will afford an opportunity of cutting away the weakest shoots, and reserving the strongest only.—(*Id.*, 1850, p. 310.)

THE MARKET GARDENS AROUND LONDON.—Covent Garden, the head market of this great metropolis, has long been celebrated for the finest fruits, vegetables, and flowers, in the world, being different now from the time when the poor German gardener settled on a piece of land near the Monster public house, Chelsea, on the lands of the Westminster family. This man bought dung where he could find it, and put it on his ground. The landlord brought an action against him; "but," says the landlord, "as you are an industrious man, I shall forgive you, if you will promise me never to poison my land any more, by putting such filthy stuff on it." The market gardeners round London, from time to time, have been stimulated by receiving large prices for their articles, from living in the vicinity of such wealth. It being the head-quarters of the government of this mighty empire of a hundred millions of people, can it be doubted that the most extravagant prices could be obtained in Covent Garden market? For dung the carter is allowed 2s. 6d. for a single load, and for wagons 5s. I have known many coachmen in the Mews at the west end, that were obliged to give those carters 6d., 9d., and 1s. to clear the manure away. These men have long hours; but, between wages, which are from 15s. to 20s. weekly, and the buying of manure, their wages sometimes reach 30s. per week. A country person will hardly believe me when I tell him that nine cart and wagon loads of vegetables have been brought by one grower, the celebrated Messrs. Fitch, of Fulham, off their 100 acres of land, and all sold in Covent Garden, by Mr. Fitch, by 9 o'clock in the same morning. Those men once sent in a four-horse wagon of scarlet Ten-weeks Stock, all pulled up by the roots, and in full bloom; they were all sold by 7 o'clock in the morning, and fetched 30l.; but it did not pay the expenses, and was discontinued another year.

Sixty pounds have been obtained for an acre of cabbages, and upwards of 100l. for an acre of rhubarb, and more for asparagus; 140l. for an acre of White Cos lettuce, 150l. for an acre of strawberries, &c. I have myself taken 30l. for 15 rods of ground of early potatoes in the open ground, managed as I have directed in my pamphlet; 10s. for a cucumber, and 20s. for a melon, 2s. an ounce for forced strawberries, and 25s. for forced grapes per pound. I have also taken 6s. a pound for early strawberries, in the open ground, upon early borders. The above prices seem high, but the expenses are enormous. Mr. Fitch, of Fulham, has told me that his 100 acres have

some years cost him, every thing included, very nearly 4000*l*. The above prices cannot any longer be maintained; an immense change has taken place since free trade and railroads have been introduced.

The change is fearful upon the old market gardeners—they cannot understand it. They little think how many fresh market gardens have sprung up in all directions, and along the lines of railways—land at 30*s*. an acre, instead of 10*l*., labor low, railway carriage cheap, and every thing else in proportion. And again, all those families that used to consume the London grown article, now have their own garden produce sent by railway. They little think, also, that railways and steamboats are continually emptying London on the Sundays, and all other times, by the tens of thousands, to eat the fruits and vegetables of country gardens. That was not the case a few years back. However hard it may be for those near London who are high rented and most severely taxed, yet it is a great and decided change for the general benefit of mankind. Railroads have given one great advantage in the early spring to the London growers. Having the climate in their favor, they send a great deal of their vegetables northwards—as early potatoes, peas, French beans, cauliflowers, rhubarb, melons, cucumbers, and other finer sorts of fruits and vegetables. The foreign articles do not hurt our markets in the vegetable line, because being grown in a warmer climate, they come in long before we do, and by the time our early potatoes, cauliflowers, peas, French beans, &c., are in, the foreigner's early crop is over, or at least it would not pay them to contend against us, unless in cucumbers, and they are bad. As for Dutch melons, no one of refined taste will eat them. The foreign growers have hurt our fruit trade to an immense degree—such as apples, pears, plums, cherries, apricots, &c. As for Dutch grapes, they look beautiful, but are tough, and three seasons out of four tasteless. The middle classes in and round London, cannot afford themselves strawberries more than a few times, and that only when a great crop is in full bearing. When a pottle is sold by the cultivator at 6*d*., the weight of which is three-quarters of a pound, the grower gets only 3*d*., and after paying 3*d*. for the pottle, and 10*l*. an acre, with all other expenses, the strawberry grower is but poorly paid. Much more could be said about the market gardening of London, but the conclusion we must come to is, that it consists in continually dunging, trenching, digging, sowing, hoeing, planting, taking the produce to market, bringing home money and dung, paying for labor, taxes, and breakage. I shall not disregard skill altogether, but dung is the very fountain-head—it is the gold in a half-formed state; and from the immense profits returned, it stimulates to the use of still more manure, till at last the ground is almost a hot-bed. The crops are no sooner planted than they find their food at once, and their growth is rapid and fine. This will explain why a London gardener can get up acres of turnips where farmers fail. Rotation, no doubt, is good in all crops where the land is poor, but as I have grown potatoes these ten years upon the same ground, and every year the crop increases, I, for one, care little about rotation.

The market gardeners of London could bring the early produce in much

sooner by forming beds, the perpendicular part facing the north, the bed sloping to the south, as I have practised myself, years ago, in a stiff soil and light, too; and with the protection of glass over these beds, as recommended in the *Gardeners' Chronicle*, for peaches, apricots, and nectarines, they might almost bid defiance to the foreign grower. With the assistance of glass and the slopes together, they would certainly be equal to the gardens round Paris. Without protection of glass we can prolong fruits and vegetables out-of-doors, without any loss, but what is most wanted is early fruits and vegetables at a cheap rate, which can only be effected by some cheap process such as has been recommended above. I am about to publish a pamphlet, on 12 of the leading and most useful plants and vegetables. I have proposed an entirely new plan of growing asparagus and seakale, and if carried out properly, the million will partake of those most delicious vegetables which at present they never taste.—(*Id.*, 1850, p. 356.)

MATERIALS ESSENTIAL FOR POTTING PLANTS.—The following materials are essential to the successful cultivation of plants in pots, and should be kept always within reach of the potting bench, in a condition fit for immediate use. It is this foresight which has rendered the course easy to many a successful aspirant; the want of it is, and has been, the ruin of half the plants propagated in this country. The foundation of all cultivation depends upon having loam, peat, sand, and decayed manure, at all times in proper condition. Loam, to be in condition for potting, requires to be laid up in a heap for at least 8 or 10 months, in order that its vegetable fibre may be in a state of decomposition. The best of loams is that procured from very old pastures or commons. The surface should be pared off not more than 2 inches in thickness. This should be of medium texture, neither too stiff nor too much inclined to sand. Where convenience admits of having two kinds, a heavier and a lighter soil will be found of great advantage in pot culture, as they will tend to accommodate plants of different habits. Peat, suited for plants, is difficult to obtain in some localities. Wimbledon Common affords an abundant variety for selection. In choosing it, let it always be procured from a dry rather than wet, boggy, spongy situation; and, if it is covered with fern or heath, it will be necessary to stack it for some time previous to its being used, in order that the coarse roots and heathy matter may be easily broken up. This is a very essential and important item in the compost, as it tends to keep it open, and it also assists in promoting good drainage. Manure in a reduced state, perfectly sweet, should also always be kept in store for general purposes; stable dung, kept until it is quite rotten, is perhaps as good as any thing. If possible to prevent it, it should never be allowed to undergo violent fermentation. For some kinds of plants, cow-dung, three or four years old, will prove very useful. Sand of a pure white kind, is the most desirable; the nearer it approaches pounded silica the better. Few localities furnish this; and hence large quantities are continually being sent from the neighborhood of London to plant cultivators in the country. To attempt any thing beyond mediocrity, without being possessed of the above materials, will be found to be a waste of labor; for, al-

though success may occasionally be obtained in indifferent soil, it will after all be but a mere exception, and must not be taken as a proof that plants will grow and thrive in any compost, however carefully attended to, unless some attention is paid to their natural wants and habits; and, further, it should always be recollected that plants in pots are in an artificial position, and that they require a proportionate amount of care in their cultivation.—(*Id.*, 1850, p. 357.)

THE DEODAR CEDAR.—After noticing the extreme hardness of this tree, and alluding to the effect it will have when more generally planted, on ornamental and landscape gardening, he proceeds:—"With regard to soils, it is an astonishing tree; almost any kind seems eligible. I have found it to thrive equally well on tenaceous loams, and on light sandy soils, or on any of those with a mixture of peat, leaf soil, or on any other vegetable matter. The deodar will not thrive in a swamp," but swampy ground, or the margins of pools, may be planted with them, if the following precaution be taken:—"A slight excavation was made where the tree was to be planted; the excavation communicated with the outlet or issue; and both excavations and outlet were filled to nearly the ground level with bricks, stones, or other imperishable materials. On this the deodar was planted, and, of course, when filled up and the turf restored, they stood on a slight mound, which, in consequence of the amount of organic material (or new tree leaves) has gradually sunk, and now the deodars on this moist site, appear as though they had been planted below the ordinary level."—(*Jour. of Hort.*, 1850, p. 284.)

RAISING OAKS FROM SEED.—I shall be happy to give you all the information I can about the management of the New Forest. I confine this to the system followed of raising the oak from seeds. First the acorns are gathered from the trees in the forest: they are then sown in beds, and transplanted at one or two years old, into the nursery lines, sixteen or eighteen inches row from row, and six inches plant from plant in the row. In this place they remain till some of the trees are large enough to plant out, which is generally four or five feet high. When that is the case, the largest plants are taken up with the Scotch planting spade. It generally happens that, though these plants are all of the same age, some of them being stronger-growing sorts, are much larger than the others. The strongest only are pruned to one leader, and planted out; the remainder are taken up, pruned, and planted in nursery lines, the same distances as at first. In this place they remain till they are the size required; then the strongest plants are selected, as before, and the weak ones either bedded back, as before, or thrown away; thus making many of the plants ten or twelve years old before they are planted out, and many of them much older, and some are stunted scrubby things after all the trouble and expense they have cost. If the enclosure is examined the first year after planting, it will be found that many of the leaders are dead. This I attribute to their selecting a leading shoot, and then cutting all the young shoots from it. Such is the way in which the oak is first raised in the New Forest. I shall state, in my next, how the enclosures

are planted and treated till they are thrown out into the forest again, which, if I am rightly informed, is not under forty years from the time they are first enclosed.—(*Gard. Jour.*, 1850, p. 229.)

STOCKS FOR CONIFERÆ.—As regards the most suitable stocks for Coniferæ, it may be observed, that they are most successfully raised from seed. It is not advisable to take young plants from a collection for this purpose, because they do not accommodate themselves to pot culture so well as plants obtained from seeds. Good healthy seeds of the following species, should be procured for the purpose of raising plants to be kept as stocks:—*Araucaria imbricata*; the different species of *Pinus*; *Thuja orientalis* and *occidentalis*; *Juniperus virginiana*; *Podocarpus elongatus*; *Taxus*; *Cupressus*; *Taxodium distichum*; and *Dacrydium spicatum*, or *Podocarpus spicatus*. Such plants will be found most suitable for those engaged in the propagation of Coniferæ. The seeds should be sown in February, in wooden boxes of convenient size, and three or four inches in depth. The soil most suitable for sowing them in is sandy peat, mixed with a fourth part of loam. The boxes should be well drained; and, after the seeds are sown, placed in a temperate greenhouse. As soon as the seedlings appear, the boxes must be removed near the glass, in order to give the plants plenty of light before the first leaves appear. The young plants should be taken out and potted in two-inch pots, using a sandy peat soil, but no loam. This treatment is preferable to allowing the plants to grow large in the box and then shifting them into pots; as when they are taken out of the box very young, with only one or two roots, they are less liable to be injured, and they soon adapt themselves to their new situation. When the seedlings have been potted, they should be removed to a cool frame, and placed on a bed of ashes or gravel, but quite near the glass. They will require to be shaded during bright sunny weather, and care must be taken never to allow them to become either too dry or too wet. The frame must be kept rather close till the end of May or the beginning of June, according to the state of the weather, when the lights may be taken off. As soon as very rainy and frosty weather sets in, the lights must be put on again, to remain on all the winter. Very little shelter will be necessary, except during severe frosts. Air must be admitted to the plants on all favorable occasions. In spring they will require to be shifted into four-inch pots; and, if properly attended to, they will be ready to graft upon by the autumn.—(*Id.*, 1850, p. 230.)

GRAPE RUST.—The following statement may tend to strengthen one of the many suggestions already pointed out with regard to this malady to which the grape is so liable; and, as my case is so clearly proven to have proceeded from the effects of sulphur, my remarks may be the means of protecting some good vine borders from condemnation. Two seasons ago the leaves of my early vines were attacked with red spider, in consequence of which I was obliged to use sulphur for its destruction. I applied a little at short intervals, which did, in some measure, keep under that pest. I observed, however, that some of the berries were inclined to rust. I gave the border the merit of this, being, as I thought, too wet. In the following sea-

son I was afraid of a second attack of my enemy, therefore I applied the sulphur earlier and to a greater extent than before. Not being aware of its evil propensities on the berry, I thought if the foliage was preserved all would be right; but when the fruit came to be the size of peas, I found, to my astonishment, their surface covered with rust to a fearful extent. I, of course, still continued to attribute the fault to the border. As I allowed no handling in the process of thinning, I was aware that it could not arise from that. Seeing, however, the evil effects of sulphur on young grapes pointed out, it struck me that it might be the cause of my complaint. I concluded that I should put the experiment to the test next season (this one;) I have, accordingly, never sulphured, and the result is most satisfactory. I have a fine crop of fruit, without the least symptoms of disease of any kind. I have therefore come to the conclusion, that where sulphur is applied early, that is to say, while the skin of the berry is young and tender, rust will unavoidably follow; and I believe that many of the cases that we are daily hearing of, proceed from the same cause.—(*Id.*, 1850, p. 310.)

THE TREE VIOLET.—In the Journal of the 13th instant I observed an article by T. C. Elliot, in which he asks if any of your correspondents "have tried the tree violet as a bedding plant." I beg to state that I have grown it as such for three years past with success, and I consider it one of the best for this purpose, not only on account of its delicious odor, but also its hardiness and the color and profusion of its bloom. My system of management is as follows:—About the month of April I take off a quantity of cuttings and put them in a bed at the bottom of a wall; they are shaded for some time during the heat of the day. These cuttings strike root rapidly, and when rooted I plant out a portion of them into the beds they are intended to flower in. Another portion are left in the cutting bed until the following spring; they are then planted out, and these flower beautifully in the autumn months. I thus make two plantations in the season. A portion of them are also potted and put into a frame when they flower during the winter months, and may be moved to the greenhouses and flower-baskets in the house. I consider the tree violet superior to the Russian and Neapolitan for this purpose. I may remark that I also find there is nothing very aborescent in their appearance when grown in beds in the open ground. I think the plants should not be allowed to stand in the same bed more than two years.. (*Gard. Journal*, 1850, p. 259.)

ART. II. Domestic Notices.

NEW HAVEN COUNTY HORTICULTURAL SOCIETY.—The twentieth annual exhibition of this Society, will be held in New Haven, Conn., on Tuesday, Wednesday, and Thursday, the 24th, 25th, and 26th of September next. The list of premiums to be awarded at that time, has been published. Upwards of three hundred and fifty dollars are appropriated for the object. The prizes can only be competed for by members of the Society.

THE MIDDLESEX HORTICULTURAL SOCIETY hold four exhibitions during the season, at Lowell, Mass., viz. :—the first, June 12th; the second, July 10th; the third, August 14th; and the fourth and last, September 11th. Liberal premiums are offered for flowers, fruits, and vegetables. We are glad to see this young Society in such a flourishing condition, and hope the members and amateurs throughout the county, will contribute liberally to the exhibitions.

CRYPTOMERIA JAPONICA.—No evergreen has been introduced that will make a more beautiful tree than this, so far as I have yet seen; and if it prove perfectly hardy, it will be invaluable as an ornament for lawns. About eight acres around my house, have been set apart for ornamental purposes, and I wish to plant various evergreens in the many aspects and open and selected spots afforded by this space.—*Yours, P. S. Fall, Frankfort, K., June, 1850.*

HORTICULTURE IN NORTHERN NEW YORK.—In the cause of horticultural improvement, this part of the country is far, very far, behind yours and many others. As yet we have no horticultural society in this region; and individuals who would do something towards the advancement of horticultural science, have, at present, no other *organized* medium through which to operate on the public mind, than the county agricultural societies. Such being the fact, I think we may be held excusable for making the best use of this means which we can.—*Yours, J. B., Keeseville, N. Y., June, 1850.*

RAISING TOMATOES IN VERMONT.—I noticed in the *Horticulturist*, for June, among the "Answers to correspondents," one to a "Vermont subscriber," in which the editor says, "Your season is not quite long enough for the okra or tomato." If he will visit us in this "*Northern* part of Vermont," in August, September, October, or November, we will engage to give him a full supply of tomatoes; and will CONTRACT to freight one of our *lake craft* with them and send him, at the price of potatoes. No vegetable is here more easily grown, or so freely given away. They are raised with no trouble but thinning and cultivating the plants, which grow abundantly from self-sown seeds. For early crops they are transplanted from hot-beds or boxes placed the south side of a building.—*Yours, C. Goodrich, Burlington, Vt., May, 1850.*

ART. III. *Massachusetts Horticultural Society.*

Saturday, April 6, 1850. A stated meeting of the Society was held to-day,—the President in the chair.

The President nominated a committee of five, to award the premiums, agreeably to the resolve of the committee, passed at the meeting in March, viz., Capt. Lovett, Eben Wight, G. R. Russell, W. R. Austin.

And, on motion, it was *voted*, that the President be added to the committee, as chairman.

On motion of C. M. Hovey, *voted*, that — dollars, agreeably to the pre-

miums offered in the Report of the Special Committee on Gardens, be and is hereby appropriated out of the treasury, for that purpose.

The president, treasurer, and secretary were appointed a committee to consider the expediency of paying a part of the expense of publishing the Report of the Pomological Convention in New York, in 1849, in connection with the Phil. Hort. Society, and to report at the next meeting.

Voted, that fifty copies of the Report on the Annual Address, be placed in the hands of the corresponding secretary, for distribution. Adjourned one week, to April 13.

April 13. An adjourned meeting of the Society was held to-day,—the President in the chair.

The committee appointed to consider the expediency of paying a part of the expense of publishing the Report of the Pomological Convention, reported, that it was inexpedient to take any action on the subject.

David W. Barnes, Boston, and William A. Harris, Dorchester, were elected members. Adjourned 3 weeks, to May 4.

May 4. An adjourned meeting of the Society was held to-day,—the President in the chair.

A communication was received from W. H. Simpson, which was referred to the Committee on Publication. The thanks of the Society were voted to Mr. Simpson for his communication.

A communication was also received from C. W. Dabney, of Fayal, a corresponding member.

William Sumner, of Pomerania, S. C., was elected a corresponding member. Adjourned one week, to May 11.

May 11. An adjourned meeting of the Society was held to-day,—the President in the chair.

On motion of E. Wight, it was *voted*, that fifty copies of the Transcript, containing the communication of William H. Simpson, on the curculio, be purchased for distribution among the members of the Society; and that the librarian be charged with the duty of the same. Adjourned 3 weeks, to June 1.

[The above includes all the business meetings of the Society, omitted in our last two numbers.]

June 1. An adjourned meeting of the Society was held to-day,—Vice President B. V. French, in the chair.

A Report of the Vegetable Committee was read and accepted.

Samuel Bigelow, Brighton, and G. W. Ellis, Boston, were elected members. Adjourned 2 weeks, to June 15.

Exhibited.—**FLOWERS:** From J. A. Lowell, several orchids, and other plants, among which were fine specimens of *Cattleya*, two or three species; *Maxillarias*, *Cymbidiums*, *Tropæolum tricolorum*, &c. From Mr. Tidd, Seedling cereus, between *C. speciosissimus* and *Epiphyllum Ackermannii*, very handsome. From J. Breck & Co., a variety of fine tulips, and other flowers. From Hovey & Co., fine tulips and pansies. Flowers, in variety, were also sent by the President, Miss Russell, P. Barnes, T. Needham, A. Bowditch, Winship & Co., E. M. Richards, James Nugent, and others.

PREMIUMS AND GRATUITIES AWARDED.

TULIPS.—For the best thirty distinct varieties, to Breck & Co., \$8.

For the second best, to Hovey & Co., \$6.

For the third best, to Breck & Co., \$3.

GRATUITIES.—To T. Owens, for orchids, \$5.

To Miss Russell, for bouquets, \$1.

To Mr. Tidd, for seedling cereus, \$2.

To Winship & Co., for cut flowers, \$1.

To P. Barnes, for the same, \$1.

To Breck & Co., for the same, \$1.

To A. Bowditch, for the same, \$1.

To J. Nugent, for the same, \$1.

To Miss Kenrick, for basket of flowers, \$1.

FRUITS.—From J. F. Allen, several varieties of grapes,—among them, Deccan's Superb, Wilmot's Black Hamburg, and others; also three boxes of handsome Elton cherries, one of May Duke; figs, and Hunt's Early Tawney nectarines, all fine. From T. Needham, Black Hamburg and other grapes, fine.

VEGETABLES.—From J. Breck & Co., Victoria rhubarb. From Jos. Lovett, 2d, Victoria rhubarb, and two new seedling varieties, large and fine. From A. D. Williams, Victoria rhubarb, and a brace of cucumbers. From Jos. Crosby, radishes and lettuce. From F. A. Davis, asparagus.

June 8. Exhibited.—**FLOWERS:** From the President of the Society, hawthorns, in variety, *Wistaria Consequana*, and other flowers. From J. Breck & Co., hawthorns, in variety, *Wistaria Consequana*, and other flowers. From H. Grundel, fine tree pæonies,—among which were *Le Soliel*, *Newmânii*, *Grand Duc de Bade*, *Roccoco*, *rosea superba*, *Imperatrice Josephine*, *Occellata*, *Ottônia*, *alba plena*, &c.; also, fine *Calceolarias*, and other flowers. From J. S. Cabot, very fine tree pæonies,—among which were *Hissidana*, *Newmânii*, *roseolens*, *Grand Duc de Bade*, seedlings, &c.

From Hovey & Co., lilac *grandiflora*, *Saugeana*, *Valletina*, dark blue, &c.; purple leaved berberry, hawthorns in variety, azaleas, six varieties of tree pæonies, and other flowers. Messrs. Wm. & J. A. Kenrick sent fine specimens of *Wistaria Consequana*. Other flowers, also, came from A. Bowditch, E. M. Richards, J. Nugent, P. Barnes, W. E. Carter, W. Ashley, W. Kenrick, J. A. Kenrick, Winship & Co., J. Hovey, E. Burns, and others.

PREMIUMS AND GRATUITIES AWARDED.

CALCEOLARIAS.—For the best six varieties, to H. Grundel, \$3.

For the second best, to H. Grundel, \$2.

HAWTHORNS.—For the best display, to Winship & Co., \$3.

For the second best, to J. A. Kenrick, \$2.

SHRUBBY PÆONIES.—For the best six varieties, to H. Grundel, \$5.

For the second best, to J. S. Cabot, \$4.

For the best display, to H. Grundel, \$3.

GRATUITIES.—To Hovey & Co., for cut flowers, \$3.

To W. E. Carter, for the same, \$1.

- To W. Kenrick, for the same, \$2.
- To J. Breck, for the same, \$3.
- To P. Barnes, for the same, \$3.
- To J. A. Kenrick, for the same, \$3.
- To Winship & Co., for the same, \$2.
- To J. Nugent, for the same, \$1.
- To J. Hovey, for bouquets, \$1.
- To E. Burns, for the same, \$1.

FRUITS.—From E. Burns, very fine Black Hamburg grapes, the berries large and well colored. From J. F. Allen, a fine collection of grapes,—among which were the Austrian Muscat, (new,) Wilmot's B. Hamburg, Muscat of Alexandria, Cannon Hall Muscat, a Seedling Hamburg, Chasselas Musqué, &c.; also Hunt's Tawney nectarines, May Duke, Elton, and Black Tartarian cherries, figs, and Grosse Mignonne peaches.

The committee tasted the Seedling Hamburg, of Mr. Allen, which they state "to be a pleasant grape, but not equal to the Parent; Austrian Muscat, not high flavored," Chasselas Musqué, very fine.

VEGETABLES.—From Jos. Breck & Co., Victoria rhubarb. From J. A. Kenrick, Victoria rhubarb.

June 15. An adjourned meeting of the Society was held to-day,—Vice President E. M. Richards, in the chair.

No business coming before the meeting, adjourned two weeks, to June 29.

Exhibited.—**FLOWERS:** From Hovey & Co., thirty-six varieties of azaleas, including the following superb kinds:—*Pencillata stellata*, *venusta*, *pontica carnea*, *elegantissima*, *gloria triumphans*, *speciosa pulchella*, *Magnificans*, *Triumphans*, &c.; also, fifty blooms of *rhododendron*, in eight or ten varieties; fifteen varieties of Beck's *pelargoniums*, and other flowers. From J. Breck & Co., *Clématis azurea grandiflora*, out-door culture, (has proved quite hardy,) a beautiful variety, with large blue flowers; *Spiræa Reevesii*, beautiful *Iris Susianna*, and other flowers. From H. Grundel, *Lilium peregrinum*, tree *peonies*, and other flowers. From George Johnson, Seedling Yellow rose, and other kinds. Flowers, in variety, were also contributed by W. Kenrick, P. Barnes, E. M. Richards, J. Nugent, Winship & Co., J. Hovey, J. A. Kenrick, A. Bowditch, and others.

PREMIUMS AND GRATUITIES AWARDED.

AZALEAS.—For the best display, to Hovey & Co., \$5.

For the second best, to J. A. Kenrick, \$3.

GRATUITIES.—To J. Breck & Co., for *Iris Susianna*, the Society's silver medal, \$5.

To George Johnson, for a Seedling yellow rose, the Society's silver medal, \$5.

To J. Breck & Co., for cut flowers, \$2.

To P. Barnes, for the same, \$2.

To J. Nugent, for the same, \$2.

To Winship & Co., for the same, \$1.

To Miss Kenrick, for the same, \$1.

To Miss Russell, for the same, \$1.

To H. Grundel, for *Lilium peregrinum*, \$2.

To H. Grundel, for peonies and geraniums, \$1.

To Hovey & Co., for bouquets, \$1.

To J. Hovey, for the same, \$1.

FRUITS.—From J. F. Allen, Elton and Black Tartarian cherries, large and fine; Hunt's Tawney nectarines, Grosse Mignonne peaches, and a collection of grapes,—among them Cannon Hall Muscat, Zinfindal, Black Prolific, Wilmot's B. Hamburg, White Frontignan, &c. From W. C. Strong, fine Muscat of Alexandria, Black Hamburg, and White Frontignan grapes. From T. Needham, fine specimens of Cannon Hall Muscat, Wilmot's B. Hamburg, White Frontignan, and other grapes. From O. Johnson, beautiful Cooledge's Favorite peaches, well ripened and colored. From John Hill, fine Early Virginia strawberries, the first of the season.

June 22. Exhibited.—**FLOWERS:** From J. S. Cabot, a fine collection of peonies,—among them, *Reine Hortense*, *Buyckii*, *Victoire Modeste*, *Sulphurea*, *lutea plenissima*, *Reine Victorie*, and seedlings; also a fine collection of irises. From H. Grundel, *Buyckii*, *Edulis superba*, *Duchesse de Nemours*, *Nivea plenissima*, and other peonies, *calceolarias* in variety, and *pelargoniums*. From Winship & Co., *Virgilia lutea*, *Amorpha fruticosa*, fringe tree, and other flowers. From L. Davenport, a fine plant, with two blooms, of the *Echinocactus multiplex*, a handsome species, with pale pink flowers, in the same style as *E. Eyriessii*.

From Hovey & Co., *Iris Susianna*, *ranunculuses* and *anemonies*, *Hydrangea japonica*, *Kalmia latifolia*, eight varieties of snapdragons, *rhododendrons*, *verbenas*, *St. Margaret* and *Iphigene*, *pelargoniums*, and other flowers; also, sixteen varieties of peonies, among them *festiva*, *Victoire Modeste*, *sulphurea*, *Buyckii*, &c. From Breck & Co., peonies, in variety, variegated leaved chestnut, *Clématis azurea*, and other flowers. Flowers, in variety, were sent by the President, B. V. French, A. Bowditch, J. Hovey, O. N. Shannon, P. Barnes, Miss Barnes, J. Nugent, W. Kenrick, T. Needham, Miss Russell, J. Dunclee, and others.

PREMIUMS AND GRATUITIES AWARDED.

PEONIES.—For the best twelve varieties, to H. Grundel, \$5.

For the second best, to Hovey & Co., \$4.

For the best display, to H. Grundel, \$3.

HARDY RHODODENDRONS.—For the best display, to Hovey & Co., \$5.

For the second best, to Hovey & Co., \$3.

For the third best, to Hovey & Co., \$2.

GRATUITIES.—To Hovey & Co., for cut flowers, \$2.

To Breck & Co., for the same, \$2.

To P. Barnes, for the same, \$2.

To Winship & Co., for the same, \$1.

To A. Bowditch, for the same, \$1.

To Jas. Nugent, for the same, \$1.

To Miss Russell, for the same, \$1.

FRUITS.—From T. Needham, very splendid Cannon Hall, Black Ham-

burgh, and other grapes. From J. F. Allen, ten or twelve varieties of grapes. From E. Burns, six beautiful clusters of Black Hamburg grapes, large berries, and finely colored. From J. Nugent, Black Hamburg grapes. From O. Johnson, beautiful Cooledge's Favorite peaches. From M. H. Simpson, very superior Hovey's Seedling strawberries. From Jos. Richardson, Cambridge and Richardson's Early strawberries. From J. Owen, Boston Pine strawberries. From Capt. W. H. Austin, Early Virginia and Boston Pine strawberries. From C. E. Grant, Newland's Alpine strawberries, similar to, if not identical with, the Wood. From E. S. Rand, Early Purple Guigne cherries.

HORTICULTURAL OPERATIONS

FOR JULY.

FRUIT DEPARTMENT.

GRAPE VINES, in the greenhouse, will now be rapidly swelling up their fruit, which will begin to color by the last of the month. Go over the bunches carefully, and, if any of them appear crowded, thin out such berries as impede the growth of the others, or prevent the cluster from attaining a good form. Top the laterals as they require it, and keep the house well damped morning, noon and night. Attend to giving air in due season, and close up rather early in the afternoon. The season, so far, has been rather wet, and there has been no necessity of watering the border; but if drought should set in, it will be best to give a liberal watering two or three times before the berries begin to color. Where new vineries have been erected the present year, and the border not got ready in season, the vines may be planted as late as the last of the month, and a year be thus saved in their growth. If the border is good, and the vines be attended to, they will grow from ten to twenty feet before winter.

Vines in the open air will now need some attention: as soon as the shoots have advanced two or three joints beyond the fruit, they should all be topped except such as are wanted to make wood for next year: tie in the shoots carefully as they extend in growth.

STRAWBERRY BEDS will now be in full fruit, and as soon as it is all gathered they should be thoroughly wed out, and put in order for making runners for next year.

PEACH TREES, in pots, forwarded in the greenhouse, and now having the fruit well advanced, may be plunged out in a warm sheltered place, and have the surface mulched with old rotten manure, or short hay or grass. Water with liquid guano, until the fruit begins to color.

FRUIT TREES, budded or grafted, should receive attention; tie up the buds carefully, and take off all suckers as they continue to spring up. Newly planted trees, mulched with short grass or hay, will be greatly benefited in their growth. Pear trees trained as pyramids should now be summer-pruned,

by topping all the laterals to one or more buds, and nipping off the tops of the main shoots, as we have described in our previous volumes.

FLOWER DEPARTMENT.

DAHLIAS will now be prominent objects of attention with the amateur. See that the shoots are neatly tied up to strong stakes as they advance in growth. If the weather should be dry, give liberal waterings once or twice a week, and a mulching with cow or horse manure will be of great benefit, where fine show flowers are wanted.

HYACINTHS, **TULIPS**, and other showy flowering bulbs should be taken up this month.

ACHIMENES should now be brought forward for a succession. Repot old plants if fine large specimens are wanted.

GLOXINIAS should now have a final shift into their blooming pots.

CAMELLIAS should now all be removed from the greenhouse to the open air; as soon as the wood gets thoroughly hardened the plants may be repotted, placing them in a half shady situation, where they will not be blown about by the wind. Inarchings may now be cut from the parent plants.

CACTUSES now about making their growth should be repotted, and have occasional waterings of liquid manure.

PERENNIAL FLOWER SEEDS of all kinds may now be planted. Early sown kinds, potted off, may now be turned out into the beds where they are to remain to bloom.

CARNATIONS and **PICOTEEES** should now receive attention; they will soon be in bloom, and as the flower stems advance see that they are securely tied up. If very large and fine blooms are wanted, break out all but three or four of the best buds. Young seedlings may now be planted out in beds.

ROSES of all kinds planted out in the open ground may be layered the last of the month. Perpetual roses will bloom best in autumn, if they are pruned in after having opened their first flowers.

PELARGONIUMS will soon be getting out of bloom; when they should all be headed down, and the cuttings put in if young plants are wanted; keep the plants rather dry for a fortnight after heading in.

FUCHSIAS should be repotted again if fine large plants are wanted.

STEPHANOTUS FLORIBUNDUS will now begin to bloom, and as the shoots advance in growth, they should be neatly tied up to the trellis.

HEATHS not planted out in the ground should now be repotted, if not already done, and plunged in a half shady cool situation.

CHINESE PRIMROSE SEEDS may now be sown for producing good blooming plants next winter. The *double* white and purple should now be propagated from cuttings.

CHRYSANTHEMUMS should now be topped to make them fine bushy plants. See the article in a preceding page, and also in our June number.

BIENNIAL AND PERENNIAL SEEDS may now be planted for blooming next year.

RANUNCULUSES should be taken up this month.

AZALEAS should be potted this month.

THE MAGAZINE OF HORTICULTURE.

AUGUST, 1850.

ORIGINAL COMMUNICATIONS.

ART. 1. *Descriptions and Engravings of Select Varieties of Pears.* By the EDITOR.

WE have already informed our pomological friends, that, in consequence of the almost entire failure of the pear crop of 1849, we should not be enabled to give the descriptions and engravings of many of the new varieties of high reputation abroad, which we expected to have had in bearing last season. We had, however, anticipated such an abundant crop the present year that we thought we should be enabled to more than make up for any deficiency of the last. To a certain extent there is now the promise of a fair crop of pears, but by no means anything like the quantity expected; and unfortunately the loss, in many instances, is among the new and rarer kinds, which, only showing a few blossoms on small trees, more generally lost the few fruits which set, than the older and larger ones, where, out of the sheet of bloom, a larger or smaller crop, according to soil, situation, or exposure, is now coming to maturity.

But among those of recent introduction, of which, by the kindness of our friends, we obtained specimens last year, were the Beurré Langelier and Beurré Goubault. These we now have the pleasure of presenting to pomologists and cultivators, and with them the Styrian, Belle Epiné Dumas, and the fine old pears, White Doyenné and Brown Beurré.

121. BEURRE' L'ANGELIER. *Mag. of Hort.*, Vol. XII, p. 336.

The Beurré Langelier (*fig. 15*) was introduced to the notice of cultivators by M. Langelier, of Jersey, in 1845, and was probably raised from seed by him. In our volume,

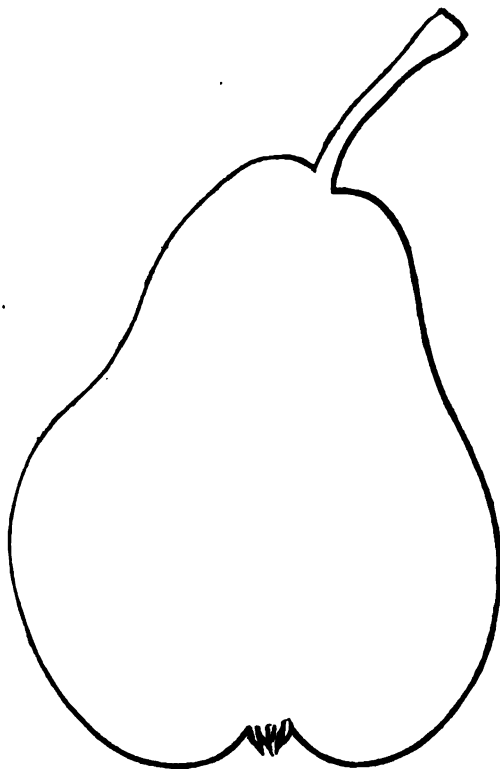


Fig. 15. Beurré Langelier.

above quoted, we gave a brief account of it, in which we copied the circular issued by M. Langelier, and circulated with the first trees which were offered for sale. We first received our trees in 1845, but as they were exceedingly small they scarcely more than established themselves that year. The succeeding spring and fall we grafted and budded both large and small trees, many of which were covered with fruit buds the third year. But the winter of 1848 and 1849 destroyed nearly every bud, and all our large

trees, to the number of a dozen or more, did not afford *one* single fruit.

In the autumn of 1846 we gave a few scions to our friend, Dr. C. F. Chaplin, of Cambridge, which he inserted on the top of a young tree, which had originally been worked on the quince: it grew away rapidly, and last year came into flower; but as it suffered, in common with other trees, by the effects of the winter, only one perfect specimen attained to maturity.

This specimen was accidentally blown from the tree by the gale of October last, but not being injured, it was kept into February, when it was exhibited at the hall of the Massachusetts Horticultural Society, and tasted by the committee, who pronounced it "a handsome pear, of good size, having some resemblance to the Bartlett; of a spirited, pleasant flavor, juicy, melting, and promises to sustain its European reputation."

It may, perhaps, appear rather premature to give an estimate of this variety from one pear, but, when its reputation is so high abroad, and a single fruit, under ordinary circumstances, fully comes up to the character of first-rate fruit, there can be little doubt that it will prove a most valuable acquisition. The tree is one of the most vigorous and beautiful growers, with an upright regular habit, and a deep green glossy foliage. It also succeeds both upon the quince and pear stock.

Size, large, about three and a half inches long and three inches in diameter: *Form*, obtuse-pyramidal, somewhat Bon Chrétien shaped, slightly contracted about the middle, and ending obtusely at the stem: *Skin*, fair, smooth, light green, becoming pale lemon yellow when mature, with a broad tinge of pale blush on the sunny side, and dotted with numerous small russet specks: *Stem*, medium length, about an inch long, rather slender, and obliquely inserted in a small shallow and contracted cavity: *Eye*, small, closed, and rather abruptly sunk in a small furrowed basin; segments of the calyx short: *Flesh*, yellowish white, fine, firm, buttery and juicy: *Flavor*, rich, vinous, and sprightly, with

a fine aroma: *Core*, medium size: *Seeds*, medium size. Ripe in January and February.

122. **BEURRE' GOUBAULT.** *Revue Horticole*, 1848; *Mag. of Hort.*, Vol. XIII, p. 451.

The Beurré Goubault (*fig. 16*) has been very recently introduced, and has only fruited in two or three collections in this country. Our drawing was made from a very fine

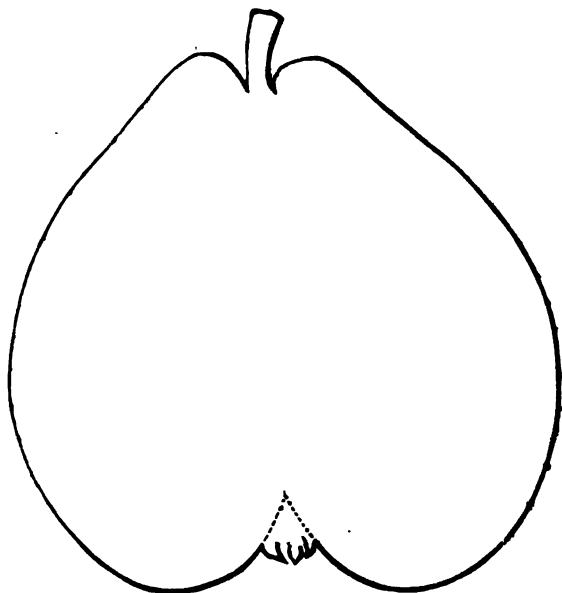


Fig. 16. Beurré Goubault.

specimen kindly sent us by F. Tudor, Esq., in whose garden, at Nahant, it was produced last year. As far as we could judge from the few specimens tasted, we should consider it a very excellent fruit, and one well worthy of a place in every good collection.

This variety was raised by M. Goubault, of Angers, France, who also produced two other sorts, the Beurré Superfine and the Doyenné Goubault, both said to be excellent.

Size, medium, about three inches long and three inches in diameter: *Form*, roundish-ovate, regular, full at the

crown, narrowing to the stem, where it ends obtusely : *Skin*, fair, smooth, greenish yellow, with a few scattered patches of russet, and dotted with small russet specks : *Stem*, short, about half an inch long, rather slender, and slightly inserted in a small cavity : *Eye*, small, open, and considerably depressed in an open and rather deep basin ; segments of the calyx short, stiff, projecting : *Flesh*, yellowish, rather coarse, melting, and juicy : *Flavor*, sprightly, sugary, perfumed and excellent : *Core*, small : *Seeds*, medium size, short, plump. Ripe in October and keeps some time.

123. STYRIAN. Hort. Soc. *Catalogue*, 3d Ed., 1842.

The Styrian, (*fig. 17*,) though enumerated in the *Catalogue* of the London Horticultural Society as long ago as 1832, does not seem to have been much known to pomological writers. Lindley does not mention it, and neither Prince, in the *Pomological Manual*, or Kenrick, in the first edition of the *Orchardist*, notice it. The late Mr. R. Manning, of Salem, was the first to make this, as he was numerous others, known to cultivators. In our volume for 1837 (III, p. 47) he gave a brief account of it, where he states he received "the scions from England, and that its origin was unknown." It first fruited in the Pomological Garden in 1836, but the season was so unfavorable that the pears did not mature so as to judge of their quality.

Since that time its cultivation has extended, but it is still very little known. We suspect its merits have been overlooked. It is a great bearer, a vigorous and handsome growing tree, and the fruit, which is of good size, has a brilliant red cheek, keeps well, and though not perhaps coming up to the character of a first-rate pear, is so near it that its combined qualities entitle it to a prominent place in every good collection. It often, like the *Passe Colmar*, bears a second crop, but the fruit does not attain maturity. In the present unfavorable season, when so many sorts have blighted and been rendered quite worthless, the Styrian is unusually fair throughout the entire tree. The tree has an upright and handsome habit, and bears young.

Size, medium, three inches long, and two and a half in diameter: *Form*, pyramidal, regular, with a somewhat uneven surface, large at the crown, and tapering roundly to

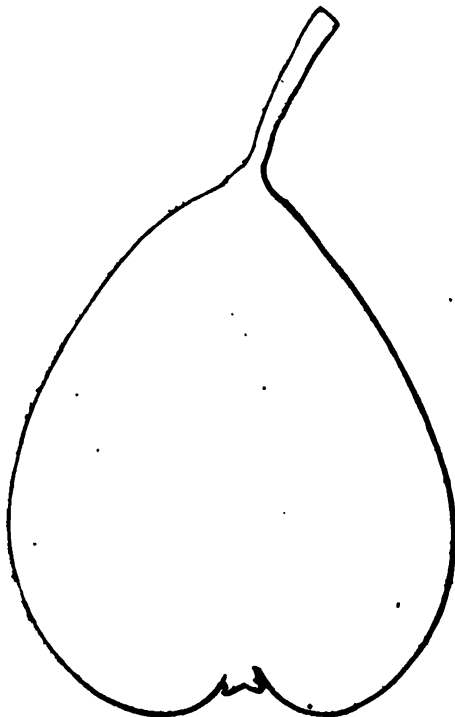


Fig. 17. *Styrian*.

the stem: *Skin*, fair, smooth, yellow when mature, tinged with light red on the sunny side, somewhat traced with russet and regularly dotted with russet specks: *Stem*, medium length, about an inch long, slender, slightly fleshy and swollen at the base, and obliquely attached without any cavity: *Eye*, medium size, open, and but little depressed, in a small shallow basin; segments of the calyx short: *Flesh*, yellowish, coarse, melting and juicy: *Flavor*, sugary, sprightly perfumed and very good: *Core*, rather large: *Seeds*, medium size, very short and plump. Ripe in October and November.

124. **BELLE EPINE DUMAS.**

Duc de Bordeaux, Belle Holoise, Belle et Bonne de Hee, Dingler, Epine de Rochoir,	}	Of some French Collections.
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We have been in doubt as to which of the above names is the legitimate title of this excellent pear, (*fig. 18.*) It

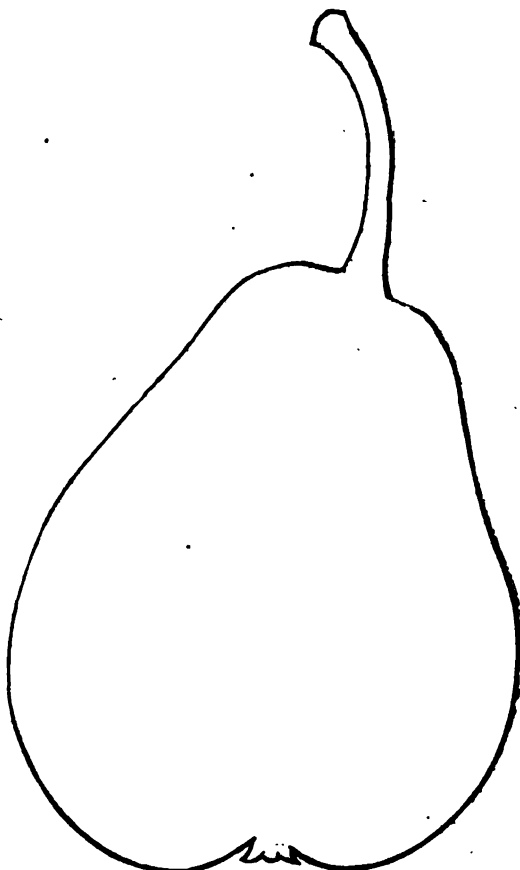


Fig. 18. Belle Epine Dumas.

has been sent from France under all of them, and the error is still continued by some nurserymen. M. Jamin, of Paris,

however, we notice, has affixed the synonymes in his catalogue, so that he, at least, may no longer perpetuate the mistake. It was first fruited here as the *Epine Dumas*, though in our collection we have since had it in bearing under the first four of the above synonymes.

The *Epine Dumas* is a very desirable addition to a collection of pears. The tree is a very vigorous and healthy grower upon the quince, comes into bearing early, produces abundantly, and, if the soil is generous, and the location good, the fruit comes up to first quality. We have not found the trees to fail of a larger or smaller crop for five to six years. The tree has a somewhat spreading habit, and the fruit is borne in terminal clusters on the young wood, as well as upon the spurs of the previous year.

One of its best qualities is the gradual ripening of the crop. We have had them in eating upwards of six weeks.

Size, large, about three and a half inches long and three in diameter: *Form*, oblong-pyramidal, rather full at the crown, contracted near the stem end, which is obtuse: *Skin*, fair, smooth, pale dull yellow, tinged with bright red on the sunny side, and thickly covered with large bright russet specks: *Stem*, long, about one and a half inches in length, rather stout, curved, little swollen at the base, and inserted with scarcely any depression: *Eye*, small, open, and little depressed in a small very shallow basin; segments of the calyx short: *Flesh*, yellowish, rather fine, melting and juicy: *Flavor*, rich, sugary, perfumed and good: *Core*, medium size: *Seeds*, large, long and pointed. Ripe in November and December, and keeps well.

125. *WHITE DOYENNE'*. Hort. Soc. *Catalogue*, 3d Ed., 1842.

Doyenné Blanc,
White Beurré,
White Autumn Beurré,
Dean's,
Snow Pear,
Pine Pear,
Warwick Bergamot,
Beurré Blanc,
Poire de Limon,

Hort. Soc. *Cat.*, 3d Ed., 1842.

Poire Neige,
 Poire de Seigneur,
 Bonne Ente,
 A Courte Queue,
 Monsieur,
 Citron de Septembre,
 Valencia,
 Kaiserbirne,
 Kaiser d'Automne,
 Weisse Herbst Butterbirne,
 Dechantsbirne,
 Beurré du Roi, (of some,)
 Beurré d'Anglaise, (of some,)
 Muscat d'Automne, (of some,)
 Passe Colmar d'Automne, (of some,)
 Yellow Butter, Coxe's *View*, &c.
 Saint Michael, *of Boston*.
 Virgalieu, *of New York*.
 Butter Pear, *of Philadelphia*.

Hort. Soc. *Cat.*, 3d Ed.,
 1842.

The White Doyenné, (*fig. 19*.) under one or more of the last three names, is well known to every cultivator of fruit throughout the country. It was one of the earliest pears introduced into our gardens, and though now, in some sections of the country, discarded on account of the cracking of the fruit, yet, where the locality suits it, it is one of the finest of all pears. Under the name of Virgalieu, (erroneously,) it is brought to New York in great quantities, and is the principal sort with which the market in that city is supplied during the autumn months. Very extensive orchards of it have been planted in Western New York, where it ripens in perfection, the trees being literally loaded with its luscious fruit, and the high price at which the pears are sold make it one of the most profitable sorts which the orchardist can plant in that favorable region.

In New England it has, within the last twenty years, ceased to be much planted owing to the cracking of the fruit, which renders it quite worthless. In some favorable localities the fruit is, however, as fair as in New York; in cities, especially, it is as handsome as when it was first introduced. In Boston there are trees, nearly a century old, which yearly produce abundant crops of the finest and most

beautiful pears. But, as an orchard fruit on the pear stock, it cannot be planted with any certainty of a good crop. On the quince it succeeds far better, and upon this stock we

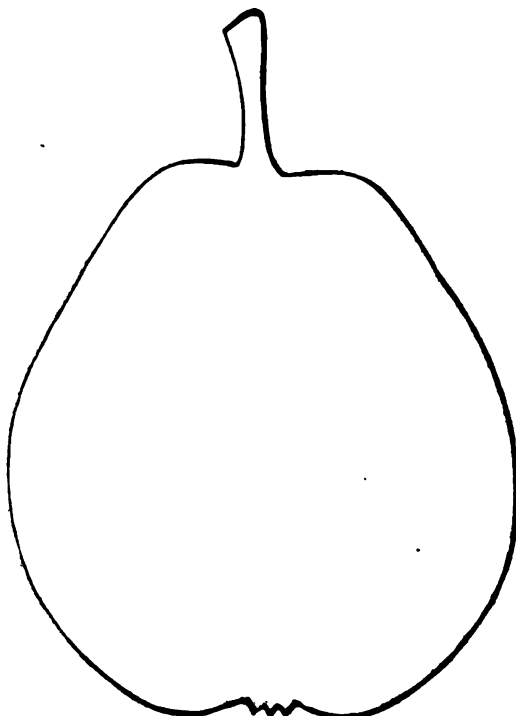


Fig. 19. White Doyenné.

have had trees loaded with fair specimens, while, on adjacent trees, in precisely the same soil, nearly every pear has been so much blighted as to be worthless. Mr. Kenrick, and some other writers, long ago denounced the White Doyenné as "an outcast," and though his expression may seem a strong one, still, practically, for New England, it is correct, until at least some method may be discovered to check the decay of the fruit.

The cause of the cracking of this pear has been a fertile subject of discussion among pomological writers, some contending, with Mr. Knight's doctrine, that the variety had become worn out; others, that it was caused by the attack of

a fungus, and still others, that the sole cause has been the propagation upon suckers or *diseased stocks*. Mr. Downing was an especial advocate of the latter theory, and contended that if trees were obtained from an *inland* nursery, they would produce as fine fruit as in former years. This notion was strenuously adhered to for a time, until, satisfied it was no longer tenable, he abandoned it and adopted another one, viz., that the cause was to be attributed to the *exhaustion of some peculiar constituents of the soil*, necessary to the growth of the tree, and that if these were supplied, (which they could be with but little trouble,) the fruit could be produced in as great perfection as in former years. To sustain this idea, instances have been given where old trees, which have borne cracked fruit for years, have been wholly or partially recovered by the trenching of the earth around the roots, and the application of a small quantity of peat, ashes, and bones, which furnish the substances wanting in the old soil; and, from the fact that some of the trees, thus experimented upon, have borne a few fair fruit, the exhaustion theory has been founded.

We have not time here to follow further this subject, as our object is now a description of this fine pear, but we intend to take up the matter at a future day, after the conclusion of some experiments we are now making, and which are being made by others, and show that to whatever cause the cracking may be attributed, it is not to the exhaustion of any peculiar constituents of the soil.

We have said that, upon the quince stock, the White Doyenné produces beautiful fruit; so that this old favorite may yet be cultivated in all the localities where it does not succeed upon its own stock.

An impression prevails with many amateur cultivators of this vicinity, who chance to be in New York in September or October, when the Doyenné is offered so abundantly for sale, that the fair and luscious pears called the Virgalieu cannot be the same as the Saint Michael; and we have known individuals to order trees from the New York nurseries, in order that the veritable sort may be obtained. One

great object of our figuring and describing it, at this time, is to do away with any such erroneous idea respecting this old pear.

A deep and fertile soil, and a situation sheltered as much as possible from the EAST winds, should always be selected for the White Doyenné; and grown as pyramidal trees on the quince, an abundance of fruit, in all the beauty of former days, will be the result.

Size, medium, about three inches long, and two and three quarters in diameter: *Form*, obovate, regular, full at the crown and tapering to the stem, where it ends obtusely: *Skin*, fair, smooth, clear pale yellow, tinged with a beautiful red on the sunny side, and regularly sprinkled with small russet specks: *Stem*, medium length, about three quarters of an inch long, moderately stout, curved, and inserted in a very small rounded cavity: *Eye*, small, closed, and inserted in a very shallow, open basin; segments of the calyx small and short: *Flesh*, white, fine, melting, very buttery and juicy: *Flavor*, rich, sugary, delicately perfumed and delicious: *Core*, medium size: *Seeds*, medium size. Ripe in September and October.

126. BROWN BEURRÉ. Hort. Soc. *Catalogue*, 3d Ed., 1842.

Beurré Rouge,
Beurré Gris,
Beurré Doré,
Beurré Vert,
Beurré,
Golden Beurré,
Red Beurré, (of some,)
Beurré du Roi,
Badham's,
Beurré d'Anjou, (erroneously,)
Beurré d'Ambleuse,
Beurré d'Amboise,
Isambert,
Isambert le Bon,
Grey Beurré, *American Gardener*.

Hort. Soc. *Cat.*, 3d Ed., 1842.

Formerly the Brown Beurré (*fig. 20*,) was considered the "prince of pears," and to say that any new variety came up

to it in quality was sufficient to give it the highest reputation. Quite unlike the White Doyenné, it yet had an equally high rank; its character being that of a brisk, vinous,

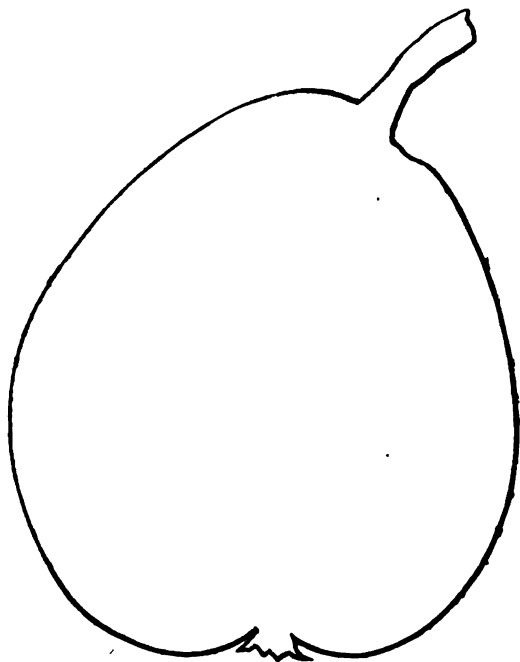


Fig. 20. Brown Beurré.

sprightly fruit, while that of the former was a sweet delicious sort. But from causes unknown, like the Doyenné, the fruit is liable to crack, and in the same localities, where the latter does not succeed, the Brown Beurré is nearly worthless. In Boston and in crowded cities, in the western part of Massachusetts and in Western New York, the fruit is still fair and beautiful, and in this condition it yet maintains all its former claims to excellence. As a pear for orchard cultivation the same remarks we made respecting the White Doyenné apply to this. But planted in warm sheltered gardens, the trees trained as pyramids or espaliers, or upon walls, the most luscious fruits are produced. In the garden of J. P. Cushing, Esq., of Watertown, where several trees are

trained to the walls, pears, weighing ten or twelve ounces each, have been produced, of surpassing excellence. A small tree in our collection, upon the quince, has annually produced a crop of fine fruit.

In cold and unfavorable seasons, when the fruit does not attain a good size, it is often wanting in flavor and extremely acid; this has induced some cultivators to class it as only an ordinary pear. Coxe, in his account of it, says, "it is of very varying excellence;" and Mr. Manning remarks, that "it is one of the best if not *the* best of the old varieties. In exposed places the pears are worthless, but in protected gardens, or in cities, or trained to a wall, they are still excellent." (Vol. III, p. 44.) Its qualities should, therefore, only be judged when the specimens are produced under favorable circumstances. It is true there are now so many new pears of great merit, at the season of the Brown Beurré, that its loss would not be noticed; still it is to be hoped that so good a fruit will not be entirely neglected or its cultivation abandoned.

The tree is of a rather straggling and irregular habit, and only of moderately vigorous growth. It succeeds well on the quince and produces abundant crops.

Size, large, about three inches long, and nearly three in diameter: *Form*, obovate, regular, largest in the middle, tapering in a swollen manner to the stem: *Skin*, fair, nearly smooth, dull green, becoming yellowish green when mature, and pretty regularly covered with tracings and specks of dull russet: *Stem*, medium length, about three quarters of an inch long, stout, and obliquely inserted on the somewhat obtuse base, without any cavity: *Eye*, medium size, open, and nearly even with the surface of the crown; segments of the calyx short and reflexed: *Flesh*, greenish white, little coarse, melting and juicy: *Flavor*, rich, vinous, sprightly, perfumed and excellent: *Core*, large and slightly gritty: *Seeds*, small, broad, dark brown. Ripe in September and October.

ART. II. *Root-Pruning the Pear and other Fruit Trees.*
From the Gardeners' Chronicle.

WE have, in our previous volumes, said so much upon the beneficial effects of root-pruning, that it would seem almost superfluous to bring forward any farther evidence of its good effects, or recapitulate the best mode of performing this operation. We believe the fact is established, at least among practical men, that, in most instances, fruit trees, especially of the pear and apple, cannot be brought into early bearing on *their own stock*, only through the medium of root-pruning. To have pyramidal pears in good shape, and to keep them within reasonable bounds of growth, is next to impossible without it. This being settled, we need only direct attention to the following article, certainly one of the best we have ever read on the subject, to remind cultivators that now is the time to root-prune; and, after understanding the *rationale* of the operation, they will at once be enabled to have an abundance of fruit:—

Much as the cultivation of the pear and other fruit trees has been improved, by grafting upon suitable stocks, with the view to make them bear sooner, and also by root-pruning in November, so strongly and clearly described by Mr. Rivers, in his "Miniature Fruit Garden," yet, in some soils and situations, they grow so late in autumn, and ripen their wood so imperfectly, that mere winter pruning and summer stopping are not sufficient of themselves to effect the desired end. This over-luxuriant habit of growth is mainly induced by stimulating soil, aided by the mulching generally applied as soon as the young trees are planted, after coming from the nursery. So well have pears in particular been managed of late years, by some of those who have made it their business and study to provide the public with the best kinds on the most suitable stocks, that we not unfrequently see them come from the nurseries in the most perfect condition; being handsome miniature trees, with numerous short-jointed shoots, covered with beautiful well-matured buds, ready to burst into bloom, while the warmth of spring is

scarcely yet perceptible. This is partly the result of frequent root-pruning and removal, with the view of inducing fruitfulness; and fruitful they are, for we have had no fewer than a dozen fine pears upon a small tree, the first year after planting. But it is a question whether cutting the roots in winter is the safest time for the operation; for if much rain happens to fall, and the soil becomes sodden, the newly cut parts may, and often do, suffer injury. The practice of cutting the roots yearly while the tree is young, and before it has attained the size desired by the owner, tends, on the one hand, to cripple its energies, and make it old when it is yet young; while the extremely fruitful habit of the trees, as now sent out, is incompatible with that quick growth which we all like to see in trees intended to be trained to a particular form and size, and kept to that, when it is once attained, by judicious root-pruning.

The new owners are, of course, delighted on receiving such trees from the nursery, and are soon busy in placing them in their stations in the garden. The trees are planted, staked, and mulched, and in dry weather, during the first spring, well watered. All this is perfectly right; for although the young trees are interesting to look at in their dwarfed state, most people prefer having them of a larger size as soon as possible; and trained either into a handsome pyramidal form, from 4 to 6 feet high, well furnished with shoots from the base to the top, or it may be into a cylindrical or an umbrella shape according to fancy. In order to cause them to attain the form and size desired in the shortest possible time, good soil, and careful management as to mulching and watering, with frequent stopping and training for a few years, are indispensable. But during this time the plants in most soils lose that short-jointed and fruitful habit which the skilful nurseryman had been at such pains to give them, and acquire what may be termed a rampant habit of growth, notwithstanding that the depth of soil in which they are planted has been limited to a foot or 18 inches, and rests upon an impervious bottom of rubble and concrete to prevent their roots from going too deep.

Now as rapid growth and a fruitful habit cannot obtain at the same time, the great matter is to be enabled to grow the tree into the form and size desired in the shortest space of time, and then, in one season, to bring it into a fruitful state. The former of these objects can easily be attained in the manner mentioned above; and the latter, which is the more important, would, we presume, be a desideratum to many of our readers, who, like ourselves, would prefer seeing trees covering their allotted spaces quickly, and without regard to having more fruit than chance or good seasons might produce while this is going on, and afterwards to be enabled to ensure plenty of fruit buds for the ensuing season.

To many it will be a startling assertion, but it is true that the best time for root-pruning fruit trees, with a view to make them ripen their wood well, and set plenty of fruit buds, is in July or early in August; or in forward situations as soon as they have formed their first growth, for many trees make a second shoot, or what is termed a midsummer growth, among which are the apple and pear, although vigorous young trees sometimes continue to grow throughout the season until their progress is arrested by cold on the approach of winter. Than this latter state nothing can be more unfavorable to the production of fruit, and to remedy it quickly summer root-pruning is a certain means, as the moment the operation is performed all growth is checked, and the perfect elaboration of the sap in the tree commences. This principle applies to all fruit trees, whether trained on walls or kept as standards, that are unfruitful or in too gross a state. It also accords beautifully with the system of summer pruning and stopping, as a proper balance is preserved by it between root and branch. The natural tendency of an over-vigorous tree, after being stopped, to throw out a forest of laterals, is also prevented. The excessive flow of sap in the tree is checked at the warmest period of the year; and any fresh accession of crude juices from the root, being in a great measure stopped by the root-pruning, the sap already in the tree, through being acted on by the heat of autumn, becomes perfectly elaborated, and fruitfulness is the

result. I have never seen a tree so treated that has not been covered with fruit buds in the autumn, and when a favorable spring followed, an abundant crop has been invariably obtained, while, by November pruning, the grossness of the following season only is checked; and in the summer which intervenes between the period of root-pruning and the time when the fruit may be expected, the trees not unfrequently recover their over-luxuriance, especially in rich soil or moist situations. As a matter of course, this process is unnecessary with trees in a bearing state; but those with only a partial crop, and which are growing too freely, may be moderately root-pruned, without danger of the fruit suffering, taking care not to neglect giving a good soaking of water immediately after the operation.

It is certainly a great triumph in the art of gardening, to be able to bring pear and apple trees into a bearing state while they are young, and only two or three feet in height; and it also affords satisfaction to purchasers to ascertain, (often in the first year after planting,) if the trees they are to be at some pains with are the kinds they wished for; but in order to give them a stronger constitution than trees can have which are constantly kept in a dwarfed state, we are of opinion that it will be found better to allow them to grow pretty freely for a few years, after they are planted in their permanent situations, and then summer root-prune them.

We confess that we often envy the position of those who are situated where fruit trees ripen their wood, and bear, with scarcely any assistance in the way of root-pruning. In such situations the grower has only to order his trees already in a bearing state, as supplied by our leading nurserymen, and he will secure plenty of the finest fruit from the season in which they are planted, instead of having as formerly to wait for years. Some trees planted by ourselves in February, 1849, have this year made shoots from three to four feet in length; and some pyramidal trellises five feet high and three feet wide at the base are becoming pretty well covered with wood. These trees we shall root-prune in a

few days, commencing by opening a trench round them about two feet from the stem down to the hard platform below, and all the roots that are inclined to be strong will be cut back to within eighteen inches of the stem; but few, except the stronger leading roots, will have advanced so far out at present, and by shortening these the vigor of the trees will be arrested and some fruit buds will be formed in the present autumn. Some pear trees grafted on pear stocks, covering an arched trellis sixty yards long, six feet wide, and nine feet high, were root-pruned, for the first time, in July, 1848, when the trees, which had been planted five years in strong rich soil, were exceedingly gross. The result of this was, that, in 1849, we had a plentiful crop of fruit on every tree, although previous to this scarcely a pear was obtainable. Numerous other instances of success with pears, apples, peaches, and apricots, could be mentioned, but it is scarcely necessary. The only difficulty which amateurs are likely to find, in applying this system of root-pruning, will be in determining the distance from the stem at which the trench should be made, and it is not easy to give precise directions on this point. Trees that have only been planted two, three, or four years, may, with safety, be cut to within about two or three feet of the stem, proportioning the distance to the size which they may have attained. The roots of trees may, by frequent pruning, be kept within a comparatively small space, by beginning with them the second or third year after planting, and at every successive operation going three or four inches further from the stem, and adding some fresh loamy soil; but trees that have been long established, and have not been root-pruned, should not be cut too close. Apricots and peaches may be kept in a fine bearing state by root-pruning in the summer, when they have no crop, and early in the autumn when they have a crop, but are still too gross. We operate upon wall trees in this state as soon as the fruit is gathered, and the wood ripens admirably.

It will be well to add, by way of conclusion, that after pruning or shortening the strong roots, which are the cause

of unfruitfulness, we put some decayed turf, or fresh loamy soil against them, in order that they may strike freely into it, which they immediately do, as the season of growth is at its height. The food supplied by the new roots during the autumn will have nothing crude in it, but will supply sap of a kind calculated to form fruit buds. In soils where the pear bears well naturally, without all this labor, it will be superfluous to meddle with it; but hundreds will be glad to avail themselves of a simple, quick, and certain means of ensuring fruit buds in a month or two, where there was before nothing but masses of watery, fruitless shoots.

ART. III. *Pomological Gossip.*

NEW VARIETIES OF STRAWBERRIES. The season just past has been a most favorable one for strawberries in this vicinity. Owing to the constant and heavy rains during April and May, and even into June, the crop has been more abundant than any previous year. This has, therefore, been a favorable time to test the merits of some of the newer kinds which have been so highly eulogized, some of them as surpassing all others. The quantity of moisture, accompanied with moderately cool weather, has perfected the growth of the largest sized fruit, though somewhat at the sacrifice of flavor; and the reputed large strawberries which did not excel this year, may be considered as having failed to sustain their reputation. In our own grounds we have had Burr's New Pine, Richardson's Late and some others; and a variety of kinds have been exhibited at the hall of the Massachusetts Horticultural Society, the principal collection of which was sent by Mr. L. C. Eaton, of Providence, and embraced the following twenty-five kinds:—

Gen. Jaquiemont,	New York Hudson Bay,
Scarlet Melting,	Dundee,
Rhode Island Hudson Bay,	Crimson Cone,
Cincinnati Hudson Bay,	Myatt's Eliza,

Mottier's Seedling,	Deptford Pine,
Columbia,	Taylor's Seedling,
Myatt's Prolific,	Burr's New Pine,
Black Prince,	Cattrugh's Seedling, No. 8,
Scioto,	(English,)
Princess Alice Maude,	Cuttrugh's Seedling, No. 6,
Profusion,	Ohio Mammoth,
Jenney's Seedling,	Old Pine,
Princess Royal, (French,)	Rival Hudson.
Duke of Kent,	

The report of the fruit committee, after tasting the above, will be noticed in the proceedings of the Horticultural Society in another page, and we would prefer that *their* opinion should be taken in preference to our own.

So far, however, as our individual opinion goes, and we examined and tasted the strawberries, we do not consider one of the above sorts really worthy of cultivation. Any cultivator, selecting his seed carefully from fine sorts, can raise a hundred seedlings as good as any of the above, unless we except the Deptford Pine. At the time we raised our seedlings, in 1834, we dug up whole beds of better ones. Indeed, a crop of fine strawberries may be as easily raised from seeds as a crop of melons. The French cultivators always raise the Monthly Alpine as *an annual*, sowing the seeds in the spring, and gathering the crop in the autumn, and the berries are always large and fine. The other kinds are no exception to the rule.

It will be seen that there are three Hudson Bays in the list. Of course only *one* could be true: that one was the New York Hudson; the Cincinnati and Rhode Island Hudsons were misnomers. The Black Prince was certainly the poorest and most flavorless berry we ever tasted. Burr's New Pine has a very pleasant, agreeable flavor when fully ripe, but is deficient in color and too small to be of any value.

Mr. Eaton certainly deserves the thanks of cultivators, for the expense and trouble of procuring, cultivating and proving all these kinds, some of which were discarded twenty years ago; but his experiment shows that all new

seedlings, whether of strawberries or other fruits, should be carefully tested by those who produce them, before they are trumpeted forth as "larger, better and more productive," than all others.

One would hardly suppose that an intelligent cultivator could have credulity enough to be induced to purchase a dozen plants of NEWLAND'S MAMMOTH ALPINE, which was hawked about the streets of Boston and other cities a year ago. The fact that it was merely an Alpine strawberry was sufficient to show there could not be much *mammoth* about it. Yet many individuals, attracted by the flaming advertisement and *challenge*, purchased what they had previously dug up by the barrow load,—the *old* Wood strawberry!

We hope the strawberry committee of the Massachusetts Horticultural Society will make a report on the merits of the varieties of this fruit in general cultivation, and, taking some sort as combining the greatest merit, discard at once all which do not come up to the proper standard of excellence.

BELLE D'ORLEANS CHERRY. This is the name of a new French variety which has fruited in the garden of the Hon. M. P. Wilder. It was ripe this year about the same season as the May Bigarreau, and is somewhat larger than that kind; the skin is of a clear amber, with a pale red cheek; the flesh juicy, tender, well-flavored and good. It promises to be a good variety, and well worthy of cultivation.

BIGARREAU DE MEZEL CHERRY. Mr. J. Washburn, of Plymouth, exhibited the fruit of this new cherry; the specimens were from a young tree, and if of full size, it is only a medium-sized fruit, and in no way worthy of the praise bestowed upon it. The cherries appeared to be some sort of a Bigarreau.

BIGARREAU DE LYON CHERRY.—Under this name some very excellent cherries were sent us by our correspondent, Lewis Eaton, president of the Buffalo Horticultural Society. It is a very large black cherry, greatly resembling the New Black Bigarreau, and appears to be a valuable variety.

ART. IV. *On the Cultivation of American Plants,—the Rhododendron, Azalea, &c.* By MESSRS. STANDISH & NOBLE, Bagshot, near London. From the *Gardeners' Chronicle*. With Remarks by the EDITOR.

Owing to the magnificent exhibitions of American plants,—so called, *par excellence*,—which have been held in the Regent's Park, in connection with the Royal Botanic Society, the last two or three years, great attention has been directed to this class of ornamental shrubs. The rhododendrons, azaleas, kalmias, &c., displayed in all the varied hues and tints which art has given them, through the process of hybridization, have attracted renewed attention, and are coming more than ever into favor as the most beautiful objects of the pleasure ground or garden.

The principal exhibitors at the displays which have been made, were the Messrs. H. Waterer, of Knap Hill, and J. Waterer, of Bagshot, both extensive cultivators, whose grounds we have already given a full account of in our foreign tour, (Vol. XII, p. 13.) We can well imagine the magnificence of some of the standard specimens which we saw in their grounds, when in full bloom and beauty. Something of their splendor we have had in our own grounds the past June. On plants which we selected in 1844, out of Mr. Waterer's collection, we had upwards of *one hundred and fifty* heads of flowers, forming a bush four feet high and twelve in circumference, densely clothed with bloom. So, too, with the azaleas, some of them seeming like masses of *flame*, so sparkling and brilliant were their colors. Nothing in the whole range of hardy garden shrubs or plants can compare with them in splendor.

We stated in our volume above referred to, (XII, p. 7), that we should neglect no opportunity to impress upon the lovers of beautiful plants, the importance of greater attention to the culture of the rhododendron, azalea, &c, and we believe we have made good our promise. Not only have we done so through our pages, but in our own grounds we

have brought up specimens to such a size and of such brilliancy, that they have been the chief attractions of the garden.

Recently a small pamphlet has been published, entitled "Waterer's System of Growing the Rhododendron, Azalea, Kalmia, and other American Plants," and as further aiding in the good work, Messrs. Standish & Noble, also extensive growers, have appended to their catalogue their own mode of treating the same plants. Neither of these, however, have come under our eye, but we find in the *Gardeners' Chronicle* so good an abstract of the latter, that we transfer it to our pages in anticipation of the original. It is prepared by the editor, Dr. Lindley, and will serve to show that the rhododendron may be successfully cultivated, even without a peat soil, heretofore considered indispensable in the growth of the plants. We would direct particular attention to the article, and we shall be glad to know that it has prepared the way for the more general introduction of "American plants" into American gardens :

The beautiful appearance of the rhododendrons, and other American plants, every where this spring, notwithstanding the severity of the winter,—and the great improvements which the shows near London prove to have been effected among them, beyond any thing that could have been anticipated,—induce us to place at once, and prominently, before our readers some judicious observations on their cultivation, which have been recently published by Messrs. Standish & Noble, of Bagshot, in their new catalogue of hardy ornamental plants.

After remarking upon the general want of an accurate knowledge of the true principles of managing American plants, they proceed to remark to the following effect :

"Comparatively few persons have succeeded in the cultivation of rhododendrons, and those few more from accidental circumstances than from a real knowledge of their natural requirements. In fact, it is a prevailing idea, that few localities are to be found where they will creditably exist,—to luxuriate is out of the question. But, on the contrary, ex-

tensive practice shows that, with a small expenditure of well-directed labor, rhododendrons may be induced to repay the attention of the cultivator in any part, and almost any locality in Great Britain.

"A more unpromising appearance than that originally belonging to the present American nursery at Bagshot, can scarcely be imagined. In its present improved state, it affords a good example of what can be done in the most sterile spots. The ground in question forms part of fifty acres, the whole of which is rated in the poor's rate book at 8*l*. The soil, which is from twelve to fifteen inches in depth, is a black sandy peat, resting upon a clayey subsoil very deficient in vegetable matter, and naturally incapable of producing any crop. With cultivation it has been rendered in the highest degree productive. The first operation was to drain it from three and a half to four feet deep; it was then trenched two feet deep, and to every acre so treated, from thirty to forty tons of good farm-yard manure was added; and as a precautionary measure, in order to exhaust the rankness attendant upon this treatment, it was deemed necessary to take off the land a root crop of potatoes, carrots, turnips, and mangold wurzel. After this treatment, American plants were found to thrive amazingly, but, like all crops in very poor soils, they continue to be benefited by the application, from time to time, of suitable enriching materials.

"It must not, however, be understood that American plants will flourish in a very poor soil; on the contrary, there is evidence every where that nearly all plants delight in a rich one. Even mosses, lichens, and heath, are more healthy and vigorous in the richest localities. With a trifling expense, however, the poorest soil may be rendered suitable for rhododendrons. An excellent compost may be made as follows:—To two parts of sandy loam or peat, or in fact any sandy soil that does not contain much calcareous matter, (American plants exhibit a great dislike to that,) add one fourth leaf-mould, one eighth sand, and one eighth rotten manure. If wanted immediately, the whole should

be well beaten and thoroughly incorporated before using. It would, however, be of great advantage to allow the mixture to remain twelve months, turning it well two or three times during that period. In old exhausted beds, a good dressing of rotten manure, forked in, will be found highly beneficial.

“Another point of the highest importance, for it is the foundation of all success in the cultivation of the rhododendron and fine-rooted plants of a similar character, is *never to allow them to become thoroughly dry at the root*. If this occurs, the whole structure of the plant is affected, deficiency of vital energy is the result, and the natural consequence of a deteriorated constitution is disease, and possibly death. The rhododendron, and its allies, suffer more from excessive dryness than any plants which we recollect, therefore a damp situation must be provided for their site. If, however, stagnant water is present, drains must be employed, and they should be three feet in depth. If the plants can enjoy the shade of trees without drip from them, so much the better.

“At Highclere, the seat of the earl of Carnarvon, in the lake at Milford, are several small islands of from ten to twenty yards in diameter, planted with American plants, presenting the highest state of luxuriance; many of the plants are from ten to fifteen feet high, and constitute, in the blooming season, masses of beauty, from their summits to the very surface of the lake. The soil of these islands is not more than eighteen inches above the water.

“On the Himalaya Mountains, the rhododendron is invariably found growing near or on the margin of morasses. So magnificent is the appearance of masses in flower of the scarlet species of these mountains, that Dr. Wallich compares the effect to that of regiments of soldiers in scarlet uniforms in the full sun when viewed at a distance. In America and other parts of the world, where any of the very extensive tribe, commonly known as ‘American Plants’ are found, it is always on the margin of lakes, rivers or bogs, or on the nearest portions of dry land in their vicinity.

Surely, then, if the many boggy places and swamps which are to be found in the plantations, on the borders of 'drives,' and even in view from many of our noblemen's princely mansions, are not worth reclaiming for any other purpose, they afford excellent situations for the display of taste and liberality; the ultimate result of which must be to gratify the eye of the proprietor, to enrich the landscape, and to give to our woodland scenery a beauty which is now, except in a few isolated cases, confined to the shrubbery and the pleasure ground.

"If only a moderate amount of stagnant moisture is present, ordinary draining is all that will be requisite. But there are situations in which this is not available, or would be too expensive, as, for instance, where the bog is of such a depth as would require a large amount of labor to procure sufficient 'fall' for the drains. Under such conditions the desired end can be arrived at by the following means:—Procure a quantity of brushwood, faggots, poles, old 'pollards,' or any materials of a like nature, and with them form a foundation on the spot you wish to plant; upon this, sufficient soil must be placed, that, allowing for subsidence, not less than eighteen inches of suitable compost will remain above the surface of the bog. In such localities the rhododendron will flourish in all its native beauty, and as the growth will be rapid, the whole substance of the soil will quickly become matted together by the roots of the plants, completely preventing any subsidence in the soil after the wooden foundation is decayed."

Suppose, however, that soil is naturally dry, and therefore the reverse of what "American" plants require, then Messrs. Standish & Noble give the following directions for nevertheless securing an adequate amount of moisture.

"The means by which this can be attained are—1, deep trenching the natural soil; and 2, keeping the beds perfectly flat, and *below* the surrounding surface, in order to prevent the escape of moisture, otherwise than by evaporation. In such situations, it is absolutely necessary to trench or in some way prepare a soil, three or four feet in depth, and the

following will be found an excellent method. Having determined the outline of the beds, remove the soil a good spade's depth, with all its attached vegetation, to some convenient spot immediately contiguous to the operations; then cart away from eighteen inches to two feet of the remaining soil, well breaking up the bottom; trenching it eighteen inches would be better still. Upon this cast in the surface soil previously removed, well chopping it with the spade as the work proceeds, filling up with a sufficient quantity of prepared soil, so that after settling down it shall be a few inches below the natural surface. During dry weather, after the beds are planted, the surface should be kept constantly stirred with the hoe and rake, for the double purpose of preventing the growth of weeds and retarding evaporation. Should an excessively dry season occur, the whole surface of newly planted beds may with advantage be wholly covered with the short grass from the lawns. It will at least prevent the necessity of a frequent use of the watering pot, the application of which in all out-door gardening is a practice 'more honored in the breach than in the observance.' If the beds are situated in the neighborhood of trees, they are sure to be invaded by a legion of roots which, if allowed unmolested possession, will in a few seasons appropriate the whole of what you had intended for your favorites. But as we recommend American plants, in such situations, to be replanted and the soil trenched to a depth of two feet every autumn, and every third or fourth year the whole mass of soil trenched to the bottom—there will not be much to fear upon that point, and the mass of soil, by being constantly rendered permeable to the autumn rains, will always contain a large amount of moisture. There need be no fear of the plants suffering from removal, as rhododendrons can be transplanted with perfect safety, even after they have attained an immense size, more especially when they have constantly been subjected to such treatment."

In conclusion, the writers point out the error of supposing that these directions will involve a large outlay. "Nothing can be more erroneous. The directions apply to the poorest

soils and to situations of the worst character. In trenching and cultivation a small pecuniary outlay will accomplish much. Labor, in this respect, is cheap, and employment much needed. The sweepings of lawns, consisting of leaves and grass, the trimmings of walks, and the refuse and clearings of the flower beds, will, when thoroughly decayed, furnish a compost in every way available for the purpose, where the natural soil is not what could be desired; and here the preparation of the beds constitutes a mere nominal outlay."

We shall take some opportunity of commenting upon these good practical remarks, which, in the meanwhile, we recommend as safe rules to be observed by those who wish to emulate the rhododendron growers of Bagshot and its neighborhood.

The comments of Dr. Lindley appear in a subsequent paper, and are intended to show that the experience and practice of Messrs. Standish & Noble are also strictly conformable to theory. They are as follows:—

The three points which a gardener must attend to, if he wishes to grow American plants well, are the following:—1, the soil must be loose and rich; 2, there must be free and constant access of moisture without stagnation; and 3, there must be no chalk. In these three rules the whole art and mystery consists; and all the tedious directions which books contain on the subject are either superfluous or are included in them.

The soil must be light and rich. Peat is not insisted upon; on the contrary, it is expressly stated that other substances will answer the same purpose, provided they are in the same mechanical condition. The reason of this is obvious. "American" plants have, in all cases, delicate hair-like roots, which remain for years without any considerable increase in diameter; such roots cannot force their way through a soil which offers much resistance to their progress. Therefore clays, stiff loams, and any other adhesive compact kinds of earth, are unsuitable to them. Ex-

cluding these we have nothing left except sand, very sandy loam, and decayed vegetable matter; and those substances intermingled form, in fact, the very soil that American plants demand. The idea of peat being essential is a mistake; it is a very good material, because it consists of sand and decayed vegetable matter, and so will any other mixture of the kind be also a good material. Decayed leaves, fragments of rotten branches, dead roots, (probably charcoal,) and such matters mixed with sand, in order to prevent the soil from becoming too compact, replace it perfectly. The only value of peat consists in its being a good natural mixture of what is wanted, and readily procurable in large quantities, in many districts. As to the addition of loam, the necessity of that depends, we imagine, upon little except its power of retaining moisture longer than dead or decayed vegetable matter. Provided the requisite moisture can be constantly secured, loam ceases to have value. As to manure, no mistake can be greater than to suppose that, because plants happen to grow in poor barren soil, they prefer it. With the single exception of conifers, we believe that all known plants are improved by manure skilfully applied, provided it is not in too recent a state. Phosphates, sulphates, and azotised matter in small quantities are the all but universal food of plants, and "Americans" like them as well as their neighbors. If any one doubts it he has only to drench them now and then with weak liquid manure; that made from Peruvian guano, or cow-dung, is the most active, apparently in consequence of its abounding so much in phosphates.

There must be free and constant access of moisture, without stagnation. In this respect "Americans" offer no exception to the general rule; the roots of all plants, if to be kept in high health, must have free and constant access to moisture, and without stagnation. That is the law. What then is peculiar in American plants is merely this, that their roots are much more quickly dried up than the roots of other plants. They are not thick, fleshy, cellular masses, coated with a spongy bark capable of detaining moisture with great

force. On the contrary, they are, as has been already stated, and as we all know, delicate hair-like fibres, whose bark is little more protection to them than the skin of a leaf. Such being their structure, they are emptied of whatever fluids they may contain the moment that the earth in contact with them becomes dry; and once emptied they necessarily perish. All those directions, therefore, which insist upon keeping the level of American beds completely below the surrounding surface, when the situation is not naturally damp, are founded upon a correct appreciation of the nature of these plants.

Why chalk should be offensive to them we are unable to explain. Such is certainly the fact; and we apprehend that one of the reasons why the American plants at Knap Hill and Bagshot are so much finer than any in the valley of the Thames, is essentially owing to the great abundance of lime in the water of all the latter district. It appears from analysis that while London water, that is to say, Thames water, contains sixteen grains of lime in a gallon, Bagshot water contains only one grain, or less.

The true difficulty, then, in growing American plants, is not, as is generally alleged, the want of proper soil, for that may be made any where, but the want of a sufficient supply of pure water; and it may be a question whether a very material difference would not be found in those places where American plants grow badly if rain-water alone were used in watering them, instead of that from pumps and ditches.

ART. V. *Floricultural and Botanical Notices of new and beautiful Plants; with descriptions of those more recently introduced into, or originated in, American gardens.*

CALYSTEGIA PUBESCENS.—This fine running plant, which we have already noticed and figured, (XIV, p. 400,) proves to be perfectly hardy. From the roots of one very small plant, left out last autumn, more than twenty strong shoots

have sprung up, which have already attained the height of six or seven feet, and have entirely covered the branches of four or five young trees with their limbs spurred in, opening daily hundreds of their fine large double blossoms, which, at a short distance, appear like double roses. It is one of the finest acquisitions of late years among climbing plants.

HYMENO'PSIS CALIFORNICA. A new and very pretty little annual under this name, one of Mr. Hartweg's discoveries in California, is now beautifully in flower, in our collection. It grows about six inches high, with linear leaves, and produces an abundance of small deep yellow composite flowers, similar in form to the common *Jacobæa*. The very few dwarf yellow flowering plants which we possess, renders this a valuable addition to the garden.

JUSTICIA CA'RNEA MAJOR.—This is one of the most showy of the justicias, having a large and handsome foliage, each branch terminated with a dense head of pale pink blossoms. It flowers freely in the greenhouse during summer, if forwarded in a warm situation during the spring.

CUP'HEA PLATYCENTRA. The beauty of this plant has been quite overlooked. As a summer ornament of the conservatory it deserves to rank with the fuchsia. We have now plants, in twelve-inch pots, which have not been out of flower since February, having gradually advanced from three inches in height, until they are now as many feet, forming a dense bush ten feet in circumference, and completely clothed with scarlet blossoms. We find it likes the free use of the syringe.

AQUILEGIA FRAGRANS proves to be a perfectly hardy plant. Its flowers, which are white, are delightfully fragrant, and are invaluable for bouquets. It has a small delicate foliage, a rather slender habit, and the flowers are borne on somewhat pendent stems. It attains the height of three feet.

120. BURTO'NIA PULCHE'LLA Meisn. Elegant *Burtonia*.
(Papilionacææ.) New Holland.

A greenhouse plant; growing two feet high; with crimson flowers; appearing in spring; cultivated in heath soil, loam and sand; increased by cuttings. (*Flore des Serres*, 1848, pl. 406.)

A beautiful species, with the foliage of the *Diosma*, the branches terminated with spikes of deep crimson pea-shaped

blossoms. It was found by Dr. Ludwig Preiss, in New Holland, in company with Drummond, who sent the seeds to England. It is a most desirable greenhouse plant. (*Flore des Serres*, October.)

121. *CHIRITA MOONII* *Gardn.* MR. MOON'S CHIRITA. (*Gesneraceæ.*) Ceylon.

A greenhouse or stove plant; growing a foot high; with blue flowers; appearing in summer; grown in leaf-mould, peat and loam; increased by cuttings. *Flore des Serres*, 1849, pl. 407.

Very similar in general appearance to the gloxinias, having large foliage, and exceedingly large flowers, larger than the gloxinia, of the richest purple. It flourishes with precisely the same treatment as the gloxinias, and like them displays its noble flowers all summer. Increased freely by cuttings. (*Flore des Serres*, November.)

122. *BARRINGTONIA SPECIOSA*. L. SUPERB BARRINGTONIA. (*Barringtonaceæ.*) India.

A greenhouse plant; growing four feet high; with yellowish flowers; appearing in spring; cultivated in loam and leaf-mould; increased by cuttings. *Flore des Serres*, 1849, pl. 409.

When in a flowering state, "it must be proclaimed, without doubt, one of the most beautiful ornaments of the earth." It forms a small shrub, with leaves more than a foot long, and proportionably broad, thick and firm, with a glossy deep green surface. The flowers form an immense majestic terminal thyrse. The individual beauty of the flowers consists in a prodigious number of stamens, which are white at the base, and tipped with crimson, and disposed in the form of a magnificent plume. They are also as fragrant as the *Cereus grandiflorus*. Altogether it is a superb object. It is easily grown in a warm greenhouse, in a good rich soil. (*Flore des Serres*, November.)

123. *CUPHEA PURPUREA*. PURPLE-FLOWERED CUPHEA. (*Lythraceæ.*) Garden Hybrid.

This is a very pretty hybrid, produced by M. Delache of St. Omer, France, from seeds of *C. miniata*, impregnated with *C. viscosissima*. The flowers are large, of a beautiful rose, shaded with violet. The foliage neat and slightly pu-

bescent. It is a fine companion for the *C. platycentra*, and worthy of a place in every collection. (*Flore des Serres*, November.)

126. *THUNBERGIA ALATA* var. *DODDSII*. MR. DODD'S THUNBERGIA. (*Acanthaceæ*.) Garden variety.

A very singular and novel variety of the well known thunbergia, with deep orange-colored flowers and a dark centre. The peculiarity of the variety is in its leaves, which are large, and distinctly bordered with white, presenting a striking contrast with its yellow blooms. Probably it can only be perpetuated by cuttings. (*Flore des Serres*, November.)

127. *FUCHSIA ARBORESCENS* var. *SYRINGEFLORA*. LILAC FLOWERED FUCHSIA. (*Ænothéracæ*.) Guatemala.

A greenhouse plant; growing five feet high; with rose-colored flowers; appearing in winter; cultivated in light rich soil; increased by cuttings. *Flore des Serres*, 1849, pl. 416.

A very remarkable fuchsia, raised from seeds received from Guatemala, by M. Van Houtte, in the year 1848. It attains the height of five or six feet; branched from the base to the top, and is covered with its numerous panicles of flowers. The flowers, before they open, have so much the appearance of several sorts of lilacs that the name has been applied to it by the amateurs who saw it in bloom in Van Houtte's establishment, and he has retained the name. The foliage is large like the *F. fulgens*, and the flowers appear in immense terminal panicles, quite unlike any other species. The habit of the plant, its fine broad leaves and numerous blossoms, render it a most beautiful and desirable plant.

The treatment of the plants is somewhat different from the other species. They should be turned out into rich garden soil, where they will make a vigorous growth. On the approach of frost they should be taken up, repotted, and be placed in a warm greenhouse, where they will display their flowers all winter. (*Flore des Serres*, December.)

128. *TREVIRA'NA CA'NDIDA Dne.* WHITE FLOWERED TREVI-
RA'NA. (*Gesneriaceæ.*) Guatemala.

Achimenes cándida, Lindl. in Jour. Hort. Soc.

A greenhouse plant; growing a foot high; with white flowers; appearing all summer; cultivated in coarse peat and leaf-mould; increased by off-sets. *Flore des Serres*, 1849, pl. 420.

A very pretty species, similar in all respects to the old and well known *T. coccínea*, (frequently called *Achimenes coccínea*,) except in the color of its flowers, which are white. It forms a neat contrast with the *coccínea*, and is well worthy a place in every collection of these fine summer flowering plants. (*Flore des Serres*, December.)

129. *SHUTE'RIA BI'COLOR Chois.* TWO-COLORED SHUTERIA.
(*Convolvulaceæ.*) China.

A greenhouse climber; growing six feet high; with yellowish and violet flowers; appearing in summer; cultivated in light rich soil; increased by cuttings and seeds. *Flore des Serres*, 1819, pl. 421.

A new and handsome climbing plant, of the habit of the *Calystègia*, growing as rapidly and displaying its flowers, which are of a true *nankeen* color, with a violet tube, all summer. It was raised from seeds received from the vicinity of Canton, and it may prove as hardy as the *Calystègia*.

Its cultivation is simple. In April the young plants commence growing, and from each axil of the leaf is emitted a solitary flower; these are succeeded by others, without interruption, for three months, during which period the "aspect of the plant is most graceful." In winter it may be kept in a cool greenhouse. The color of the blossoms render it a very interesting object, contrasting prettily with the *Ipomæas* and other climbers. (*Flore des Serres*, December.)

130. *DIPLADE'NIA UROPHYLLA Hook.* LONG-LEAVED DIP-
LADENIA. (*Apocynaceæ.*) Rio Janeiro.

A stove plant; growing two feet high; with yellow and rose-colored flowers; appearing in summer; cultivated in leaf-mould and loam; increased by cuttings. *Flore des Serres*, 1850, pl. 425.

A beautiful plant, with an erect habit and large handsome foliage, producing at the axils of the leaves, near the ends of the shoots, numerous pendent clusters of flowers. The tube is of a chamois yellow, the limb of a bright rosy salmon,

and the throat of a golden orange; these colors combined, rendering the plant exceedingly beautiful. It grows freely with the same treatment as the *Gardènia flòrida*. (*Flore des Serres*, January.)

131. *ASCLEPIAS DOUGLA'SII* Hook. DOUGLAS'S ASCLEPIAS.
(*Asclepiadacæ*.) North America.

A hardy herbaceous plant; growing three feet high; with pink flowers; appearing in summer; cultivated in rich soil; increased by dividing the roots. *Flore des Serres*, 1850, pl. 426.

A fine hardy species of the *asclepias*, discovered by Douglas on the Rocky Mountains, but not introduced till 1846, when it was raised from seeds at Kew. It has a simple stem, with numerous large flowers of a pale rose, which remain in beauty a long time. It is a fine addition to our hardy plants. (*Flore des Serres*, January.)

MISCELLANEOUS INTELLIGENCE.

ART. I. General Notices.

RARE CONIFERÆ AND IMPROVEMENTS IN THE CAIRNIES, AT PERTH-SHIRE. (Concluded from p. 229.) [The following is the concluding portion of the excellent article on the Coniferæ, which we have copied in our last volume and in the present. In the increased interest which cultivators have given to this tribe of plants, the articles are rendered particularly valuable at this time.—Ed.]

CUPRESSINÆ.

There are here of this tribe—

1. *Cupressus torulosa*, a Himalayan species of much interest. It is not many years since this species became known in this country, and the doubts at first entertained of its hardihood, operated much against its diffusion over the country. Even now that these have been ascertained to be groundless,—for it has been proved at the Cairnies, as at other places, to be equal to our climate,—its other claims have been neglected or forgotten. It is found in the Bhootan Nepal ranges, at an altitude of 8500', attaining a height of 40 feet—a tree of the fairest proportions, pyramidal, much branched, with a brownish bark, apt to scale off. There has been another condition of this tree observed, inhabiting still loftier elevations at the Fountains of Gumpy and the river Buspa, between 31° and 31° 20' of north latitude, ranging from 11,000 to 16,000 of altitude, inclining more to a frutrescent habit, in which form it is known as the *Cupressus Himalayensis* of some: but in no obvious respects is it to be distinguished from the true *C. torulosa*. While, like the *Pinus Gerardiana* it affects the driest, rockiest, sunniest exposures, it also

flourishes in districts deluged by heavy rains, where the *P. Gerardiana* will not grow. The *C. torulosa* is the *most fragrant* of trees, whether as a denizen of the forest it cheers the traveller with its balsamic odors wafted on the breeze, or as a timber tree its wood is burned by the natives as a most grateful incense to their favorite goddess, Devi. It grows and suits the climate of the Cairnies well. Surely this tree deserves more attention for ornamental planting.

2. *C. Lindleyi*.—This new species, from between Anganguco and Talpuxahua, has proved itself hardy. It is the *C. thurifera* of Lindley, in *Bot. Reg.*, 1839, app. p. 64.

C. Macrocarpa, *syn. C. Lambertiana*, under which name it was originally given to the world in compliment to Mr. Lambert, who first, in 1838, communicated seeds of it to the Horticultural Society of London. This noble species is from Upper California, found to be perfectly hardy, and attains the height of 60 feet, with a circumference of 9 feet. It is one of the finest of its race, not merely for its beautiful evergreen foliage of the brightest grass-like verdure, but for its perfect hardihood, great size, and striking outline—having, when old, much the general character, and wide, horizontal spreading top of a full-grown Cedar of Lebanon. Hardy at the Cairnies—a truly noble species.

JUNIPERINEÆ.

Of this section there are here two or three species, of which I can only notice one, the

Juniperus excelsa.—This tree has a very extensive range of habitation. It is found in the islands of the Grecian Archipelago—a *g.*, in the island of Tassos, where it forms, with the Laricio, whole woods; it is also found in Tauria, Syria, Asia Minor, and in Arabia—sometimes in the Western Himalaya, at an altitude of from 8000 to 12,000 feet above the Sutlej, where, with *Cupressus torulosa*, it is the only tree. An undoubtedly hardy and fine kind, though not exempt from the fetid odor that characterizes many of this family.

TAXODINEÆ.

1. *Taxodium*.—This section embraces the giants of the Coniferæ.

Taxodium distichum.—This is the Ahuahuate of the Mexican Plateau and the Cyprès Chauve (Bald Cypress) of the southern states of North America; it is a magnificent tree. It is the deciduous Cypress of Chapultepec, in Mexico—otherwise the “Swamp Cypress”—and occupies a mountainous range of from 5200 to 7000 feet of altitude, stretching from the 38° to 43° of N. lat. Mr. G. F. Ruxton, in his published Adventures in Mexico and the Rocky Mountains, grows eloquent in his notice of a grove of this magnificent tree, as having been contemporaneous with, but as having long outlived the Montezumas Palace. One of these he measured in 1846, and found it to be 17 yards in girth, or 17 feet diameter, in the stem—at once the most picturesque and nobly-proportioned tree it is possible to conceive, rising into the sky a perfect pyramid of foliage, from whose branches hang pendulous, graceful festoons of a mossy parasite. Baron A. Humboldt is not less eloquent in its praise, describing it as attaining, in the lofty plains

of Mexico, a height of 128 feet, with an enormous girth—the *diameter* being from 30 to nearly 40 feet (!) when measured near the ground. While in Louisiana, at 43° north lat., it descends to the marshy district, (Cypress swamps) it ranges from 5700 to 7670 feet above the sea, within the Mexican tropics; from the roots excrescences of a conical, round, or tabular form, spring up and project 3, and even 5, feet above the ground. Perfectly hardy at the Cairnies.

Taxodium sempervirens, syn. *Sequoia Sempervirens* (?), *S. gigantea*, Endlicher, 198. This is past all question the most stupendous tree of the whole range of the Coniferae, yet recovered from their native wilds—attaining the scarcely-conceivable height of 300 feet; although the *Pinus Trigona* (Rafinesque) of the western slope of the Rocky Mountains, not yet introduced, is of an equal height, with proportions otherwise not less gigantic. It is invaluable as a timber tree. It is noticed in the *Journal of the Horticultural Society*, as being a native of the mountains of Santa Cruz, north of Monterey, in California. It is called by the American settlers, Redwood, or Bastard Cedar. Even in dense forests it averages the height of 200 feet, with a girth of from 18 to 24 feet in the stem, which shoots up straight as an arrow, and clear of branches to the height of 60 or 70 feet. One tree measured 55 feet in circumference, at 6 feet from the ground. The bark is very thick. The timber is of a beautiful red color, like pencil-wood—fine close grained, light, but brittle—and from its not being liable to warp in the seasoning, nor subject to the attacks of insects, it is well adapted for in and out-door work. It is consequently an important article of export, and large quantities are annually brought down to Santa Cruz for that purpose, which are worth £8 per ton. Its hardihood has now been satisfactorily tested.

CRYPTOMERIA.

Cryptomeria Japonica.—This beautiful ally of the Cupressineae was found by Mr. Robert Fortune, in 1843, in the province of Kiang-nan, growing in the country a few miles from the city of Shanghae, who describes it as the most beautiful tree of the Coniferae, which is met with in China. He regards it as not indigenous to that district, where the country is too low and flat for its proper development. "And in the mountain districts, near Ningpo, particularly at a celebrated temple named Tein-tung," he says, "some noble specimens were met with, straight as larches, from 80 to 100 feet in height, and clothed with branches to the ground." They struck him as resembling in appearance the *Araucarias* of Australia and Brazil, more than any other tree he knew. From their appearing to be more at home on the hilly undulating ground in the last named district, than at Shanghae, he suggests that this fact be attended to in planting the tree in this country. Judging of the climate there, he has no doubt of its proving hardy in Britain; and from its having withstood the severe winter of 1846–47, and proved itself to be as hardy with us as the *Deodar*, he holds that fact as affording undoubted proof of his previous estimate. We have, in this species, he holds, a tree with the striking habit of the above named *Araucarias*, than which he regards the present as still more graceful in form, with all the advantages of perfect hardihood, a quality of which the others are devoid. He describes the tim-

ber as twisted in the grain, and as of the most durable nature. Poles made of its timber, placed in front of the residences of the Mandarins, have been found perfectly sound, after having stood there "for ages." Like the common Scots Fir, it thrives best in a loamy soil, and is propagated alike by seeds and cuttings. The trees grow in China from 4 to 5 feet in diameter. A beautiful specimen is noticed as having flowered in August, 1848, and offered to seed freely at Milford nursery, near Godalming, in Sussex. Professor Lindley has confirmed the fact of the perfect hardihood of this tree in England. It is a rapid growing species, and should, for so many valuable properties, be extensively grown. The plants here and elsewhere in Scotland, are young, but promising.

PODOCARPUS AND TORREYA.

Podocarpus nucifera syn. *Torreya nucifera*.—Though Endlicher lends the weight of his high name in classing this as one of the two species noticed by him as comprising the section "Torreya," it is now generally recognized as belonging to the tribe "Podocarpus." It is a valuable tree in as far as the question of hardihood is involved, having withstood this bygone very trying winter, and proved itself quite hardy in this high district. It is a native of the mountains of both islands of Nippon and Sikok, and cultivated throughout the whole territory of Japan; as the name implies it is a *nut-bearing* species. It is known in China by the name of "Fi," or more commonly "Kaja." It is the *Caryotaxus nucifera*, of one authority, and the *Taxus nucifera*, of some others.

Podocarpus Koraiana, Siebold.—This is an inhabitant of the island of Coræa, in the Japanese seas, and is cultivated in the gardens of Japan; of doubtful hardihood, but not yet sufficiently tested.

Podocarpus macrophylla syn. *P. makoya*.—This species is likewise obtained from Japan, an inhabitant of that country, up to the 40° of N. lat., where it attains a height of 40 to 50 feet. A dwarf variety of this tree is cultivated in Chinese gardens. Though the high latitude assigned to it might warrant the conclusion of its being hardy in this country, yet the bygone season has destroyed it at the Cairnies. It is certainly deserving of another trial, for it is spoken of as a tree of fair proportions, having a lofty spreading top, yielding timber which resists the attack of insects, and much prized for cabinet work.

Podocarpus Harringtoni is the last I shall notice of this section; a new species, whose merits are not sufficiently proved.

ARAUCARIÆ.

Araucaria imbricata.—This remarkable tree, which forms vast woods in the south mountains of Chili, between the 35° and 50° of S. lat., is used by the natives of that region, not only as a timber tree of great durability, but as affording a useful esculent in its seeds. With us these ultimate objects seem to be overlooked; but who does not prize it, and give it the foremost place as at once the most striking and ornamental of lawn trees. Armed with its dense imbricated spiny foliage, it recalls to mind, and is sufficient to have suggested, the formidable steel-clothed tree of the Isle of Serendib,

as related in the Arabian Nights, from whose top the magical bird of song fell to be recovered. Perfectly hardy in the moor of the Cairnies.

Arucaria Braziliensis.—This beautiful species must, I fear, be struck from the list of plants suitable to our climate. For although it is recorded as having withstood, at some places in Britain, the frosts of two succeeding winters, this is by no means the case with it generally. Here it is at best a frame plant; and those who wish to keep, must so preserve it, at least as long as it can be so managed.

I have now brought my observations on the Cairnies' Coniferae to a close, and to you, Mr. Editor, and to your numerous readers, I must apologise for allowing my remarks to be so widely scattered over your pages. My great aim has been to point out, so far as known, the claims of the respective members of this most interesting family, whether as respects their utility as timber trees, their ornamental character, or their capacity of withstanding our climate; and however meagre the particulars communicated may appear, these have not been gathered without considerable research, which has been, in some instances, not only troublesome, but perplexing, in as far as the same thing figures under so many names, with so many different authorities. In such circumstances it is in vain to indulge the belief that I have at all times escaped error. Allowances must be made, and those who grow, must benefit the lovers of this tribe, by their observations. There are many now in the field; and the aptitude of all the species, at least of those enumerated in these communications, to our climate, is now being tested under many varied circumstances as regards soil, situation, and exposure, on each of which particulars, future communications by others having superior opportunities may, with great profit to other growers, be contributed through your columns. And since these remarks began to appear, it is gratifying to observe that gentlemen better qualified to the task, have been giving valuable contributions to the world upon other collections. I would instance, in particular, the notices by R. G. in the columns of the *Gardeners' Chronicle*, on the Conifers of Elvaston, whose only fault (the notices I mean) is, that they are much too brief to satisfy public curiosity on that most magnificent of all British collections. But it is not from the "gay landscapes" of Elvaston Castle that the Scottish grower must gather information as to what is suitable or unsuitable for his mountains or his moorland. The experience of the Cairnies will be to him of higher value. Without shelter, except from its own plantations, the Cairnies, as I have observed before, is 600 feet above the sea, about 40 miles inland, and situated at 56° 30' north lat., circumstances carefully pointed out as of much practical value to planters, in his own country, by the Editor of *Hovey's Magazine of Botany*, an old established horticultural work, published at Boston, U. S., in whose pages these communications have, from time to time, re-appeared. But it must be admitted that the last has been a most trying winter, or rather spring, the recent sharp frosts having severely checked the young shoots even of species of undoubted hardihood, not excepting *Abies Douglassi*, and *Cedrus Deodara*. Loss and injury have in con-

sequence occurred in the following species, particularly among the long-leaved, or *swamp pine*, tribes, viz., among

Pinus Hartwegi.

P. Russelliana.

P. Montezumae.

P. Devoniana.

P. Macrophylla.

P. insignis—affected, but lives.

P. mitis—dead low down on the river bank; but survives on the high moor.

P. halepensis—dead.

P. Gerardiana has stood uninjured on the moor; in other situations dead.

P. macrocarpa.—Last year's seedling planted on the moor and elevated portion of the river bank; healthy and vigorous.

P. Sabiniana of same age and similarly planted, have suffered.

P. perrica suffered slightly.

Araucaria Braziliensis survived the winter, but went in the spring.

A. imbricata—healthy and uninjured.

Abies Douglasi has suffered in the leading shoots; indeed, in the lower grounds they are generally destroyed, but are in perfect health and vigor on the high muir.

The whole of the *Abies* tribe, with the exception of *A. Morinda*, are perfectly safe, including *A. orientalis*, *A. cerulea*, *A. nigra*, *A. Alba*, *A. Menziesii*.

P. Uncinata, on the other hand, has died on the muir, but lives on the river bank.

Cedrus Deodara, where exposed to the blast, has suffered much; where perfectly sheltered, not so much.

Picea nobilis—only one plant has suffered; the rest perfectly healthy.

P. Grandis,

P. Hudsoni,

P. Pinsapo,

P. Cephalonica,

P. Pichta,

P. Pindrow,

} In all localities are perfectly strong and healthy.

Picea Webbiana also uninjured, with leading buds, promising vigorous health and growth.

Taxodium sempervirens has suffered by losing some of the young woods.

Cryptomeria Japonica has also suffered; one small specimen killed.

In the advanced and very interesting Pinetum of *Keillour*, already referred to as lying adjacent to the lands of Cairnies, the season has not passed by without its ravages. The beautiful *Pinus Hartwegi*, the admiration of every lover of the Coniferae, which hath withstood so many winters, and last year promised so well, is destroyed. But the no less lovely *P. monticola* has proved itself equal to the season, and is indubitably hardy.

Lest the enumeration of the above casualties and injuries may discourage any intending planter of this family, it is proper to mention that, probably, a

more trying spring season for such things, has not occurred for many years, and may not soon recur. Its devastations have spread among species of unquestionable hardihood, *e. g.*, the *Abies Douglasi*, *Picea nobilis*, and *Cedrus Deodara*. But not the least remarkable fact to be gathered from these brief statistics is, that the species which have suffered and died in the low lying banks of the Almond, have stood uninjured on the high ranges of the Cairnies. This is a most encouraging fact for Highland proprietors.

For many of the seeds of these beautiful tribes, Mr. Patton has been indebted to — Godesden, Esq., Ervell Castle, Surrey, and other friends. Mr. Patton has lately added to his collection, the *Cupressus Goveniana*, and the following pines:—*Pinus Benthamiana*, *P. Fremontiana*, *P. radiata* (? another name for *insignis*), and *P. Skinneri*; the latter rare pine, being from the mountains of Guatemala, has withstood the winter admirably.

I had hoped to have closed here with some brief notice of the Coniferæ at *Glenalmond*, the property of James Murray Patton, Esq., the brother of Mr. Patton, of the Cairnies, as formerly intimated, but these remarks having extended so far, I must, I find, refer this notice to another publication.— (*Gard. Jour.*, 1850, pp. 266, 345.)

ART. II. Domestic Notices.

AMERICAN POMOLOGICAL CONGRESS.—In conformity with the resolutions passed at the last session of this National Institution, its next meeting will be held in the city of Cincinnati, Ohio, on the 11th, 12th, and 13th days of September next, A. D. 1850.

The Ohio State Board of Agriculture, and the Cincinnati Horticultural Society will also hold their annual exhibitions at the same time and place, and the latter have generously offered to provide for the accommodation of the Congress.

All agricultural, horticultural, pomological, and kindred societies in the United States and the Canadas, are hereby respectfully invited to send such number of delegates as they may deem expedient.

In order to facilitate the objects of this association, to promote pomology and the sciences upon which it depends, to collect and diffuse a knowledge of researches and discoveries in this important department, delegates are requested to bring with them specimens of the fruits of their respective districts, with lists of the same, and also papers descriptive of their art of cultivation, of diseases and insects injurious to vegetation, of remedies for the same, and whatever will add to the interest and utility of the convention.

Packages of fruit not accompanied by its proprietor, may be addressed to the care of Messrs. John F. Dair & Co., Lower Market Street, Cincinnati, O. These should be very distinctly marked "For the American Pomological Congress."

All societies to be represented in this congress, will please forward certificates of the election of their several delegations, to J. B. Russell, Esq., Corresponding Secretary of the Cincinnati Horticultural Society. Delegates will also report themselves at the Burnet House, on the morning of the 11th,

where a committee will be in attendance to take charge of their fruits, and from whence the congress will proceed to the hall assigned for its meetings.—MARSHALL P. WILDER, *President*, July 4, 1850.

ART. III. *Massachusetts Horticultural Society.*

Saturday, June 29, 1850. An adjourned meeting of the Society was held to-day,—the President in the chair.

No business of importance coming before the meeting, it was adjourned two weeks, to July 13.

Exhibited.—FLOWERS: From Hovey & Co., a superb collection of roses, containing more than 300 varieties, including several new ones. The *thirty* blooms which were awarded the first premium, were as follows:—*Provence*, *Cristata*, *Cabbage*, and *Comtesse de Ségur*; *Moss*, *Common Red*; *French*, *Bijou des Amateurs*, *Boula de Nantieul*, *Bizarre Marbree*, *Perle de Panachees*, *Mazeppa*, *Kean*, *Walter Scott*, *Fanny Parrisot*, *Czar*, *Franklin*, *Blanchfleur*, *Neron*, *Eclat de Rose*; *Hybrid China*, *Capitaine Sissølet*, *Ernest Ferray*, *Chénédolé*, *Charles Louis*, *Vandael*, *Victoire des Hybrides*; *Hybrid Bourbon*, *Brennus*, *Coupe d'Hebe*, *Charles Duval*, *Las Cases*, *Paul Perras*, *Gloireux*; *Persian Yellow*; also, *Verbena St. Margaret*, *phloxes*, &c.

From J. W. Brown, gardener to W. P. Winchester, *Cabbage roses*, from a bush brought from the garden of the Alhambra, by Mr. W., in 1845. From J. Breck & Co., *Clématis Hendersoni* and *Alpina*; roses in great variety, and other flowers. From H. Grundel, *Princess Adelaide Moss*, and other roses, in variety. Flowers were also contributed by the President, Winship & Co., T. Needham, G. B. Draper, J. S. Jackson, A. Bowditch, James Nugent, P. Barnes, W. Kenrick, J. A. Kenrick, Miss Russell, and others.

PREMIUMS AND GRATUITIES AWARDED.

HARDY ROSES. Class I.—For the best 30 distinct varieties, to Hovey & Co., \$8.

For the second best, to H. Grundel, \$6.

For the third best, to Breck & Co., \$4.

For the best display, to Hovey & Co., \$3.

Class II.—For the best 12 distinct varieties, to Hovey & Co., \$5.

For the second best, to Hovey & Co., \$3.

For the third best, to Breck & Co., \$2.

PERPETUAL ROSES. Class III.—For the best 10 distinct varieties, to H. Grundel, \$5.

For the second best, to Hovey & Co., \$4.

For the best display, to Hovey & Co., \$3.

GRATUITIES.—To Breck & Co., for cut flowers, \$3.

To P. Barnes, for the same, \$2.

To J. Nugent, for the same, \$1.

To A. Bowditch, for the same, \$1.

To Miss Kenrick, for the same, \$1.

To H. Grundel, for display of Moss roses, \$3.

To Miss Russell, for basket of flowers, \$1.

FRUITS.—From S. Walker, fine Seedling strawberries. From E. Burns, very fine Black Hamburg and Muscat of Alexandria grapes. From M. P. Wilder, Belle d'Orleans cherries, and Cushing strawberries. From M. H. Simpson, 2 baskets Hovey's Seedling strawberries. From S. Sweetser, Hovey's Seedling strawberries. From J. Fay, 3 baskets Fay's Seedling strawberries. From Jos. Richardson, 1 basket fine Hovey's Seedling and Boston Pine, and Cambridge strawberries. From O. Johnson, 1 large basket Hovey's Seedling strawberries. From W. C. Strong, Black Hamburg grapes. From James Nugent, Black Hamburg grapes and White Tartarian cherries. From T. Needham, fine Cannon Hall Muscat, Wilmot's Black Hamburg, and other sorts of grapes. From J. F. Allen, thirty-three kinds of grapes, among them Austrian Muscat, White Bual, De Candolle, Deccan's Superb, &c.; also, Violet Hatif, Downton, and other nectarines, and Late Crawford, Grösse Mignonne, Tippecanoe, and other peaches.

July 6. Exhibited.—**FLOWERS:** From J. Breck & Co., nine var. Prairie roses, including June, Eva Corinne, Ranunculiflora, &c.; also, Clématis Hendersonii, Shillingi, rubra and alpina, and other flowers. From Hovey & Co., ten varieties of Prairie roses, including Mrs. Hovey, Anne Marie, Pride of Washington, &c.; also, phloxes, pinks, &c. Flowers were also sent by the President of the Society, P. Barnes, E. Winslow, Winship & Co., J. Hovey, James Nugent, W. Kenrick, Miss Kenrick, and others.

PREMIUMS AND GRATUITIES AWARDED.

PRAIRIE ROSES.—For the best display of not less than 6 var., to Breck & Co., \$5.

For the second best, to Hovey & Co., \$4.

For the third best, to Winship & Co., \$3.

GRATUITIES.—To Breck & Co., Hovey & Co., P. Barnes, J. Nugent, Winship & Co., Miss Kenrick, Miss Russell, and E. Winslow, for cut flowers, \$1 each.

FRUITS.—From O. Johnson, superior Hovey's Seedling, Boston Pine, and Jenney's Seedling strawberries. From Hovey & Co., 2 large baskets superior Hovey's Seedling, and 1 of Boston Pine strawberries. From W. P. Jenney, fine Jenney's Seedling strawberries. From J. Richardson, fine Richardson's Late strawberries. From E. Cleaves, Hovey's Seedling strawberries. From E. Burns, May Duke cherries. From George Walsh, new large Black Bigarreau cherries, fine. From J. Nugent, May Duke cherries, and B. Hamburg grapes. From J. F. Allen, six kinds of grapes, fine peaches and nectarines. From J. Washburn, Bigarreau de Mezel cherries, and two other sorts. From E. Burns, very fine Muscat of Alexandria and Black Hamburg grapes. From S. Davis, Seedling cherries. From L. C. Eaton, Providence, twenty-six varieties of strawberries, which were tested by the committee, who made the following report, which we copy:—

"Gen. Jaquiemont, size below medium, flavor very fine, quality first rate; Gen. Jacquiemont of the French, probably the same as the preceding;

Scarlet Melting, inferior quality; Rhode Island Hudson Bay, small, of fair quality; Cincinnati, do. do., small, acid; New York, do. do., medium size, deficient in flavor; Dundee, small, from its firm flesh appears to be well suited to carriage; Crimson Cone, small, inferior; Myatt's Eliza; Mottier's Seedling, indifferent; Columbia, a good strawberry, of medium size and peculiar flavor; Myatt's Prolific, of large size, coxcomb shape, good quality; Black Prince, medium size, dark color,—wants character,—poor; Scioto, of medium size, and quality; Princess Alice Maud (?); Profusion; Jenney's Seedling; Princess Royal, (French); Duke of Kent, bears a strong resemblance to Dundee; Myatt's Deptford Pine; Taylor's Seedling, small, indifferent; Burr's New Pine; Cattrugh's Seedling, No. 8, (English) no flower, of excellent shape; Cattrugh's Seedling, No. 6, of a hantbois flower; Ohio Mammoth; Old Pine, (Burr's); Rural Hudson, a good strawberry, of a large size, flesh firm, color light red.

July 13. An adjourned meeting of the Society was held to-day,—President Walker in the chair.

A communication, accompanied with a present, was received from Monsieur Tougard, Chevalier of the Legion of Honor, President of Central Society of Horticulture of the Lower Seine, at Rouen.

Voted, on motion of Mr. Richards, that the thanks of this society be presented to Mons. Tougard, for his valuable present, and that the corresponding secretary communicate the same.

Voted, on motion, that further time be granted to the committees appointed to select delegates to attend the Pomological Convention, to be held in Cincinnati, in September next.

The corresponding secretary read two letters received from Dr. J. Kinicott, of the Grove, Illinois. Adjourned two weeks, to July 20.

Exhibited.—**FLOWERS:** From Hovey & Co., 15 varieties of phloxes, among which were Anna's, Triumphator, Camille, Cromwell, Arsinoe, Goethe, Beppo, Rosetta, &c.; also, 12 varieties Prairie roses, *Calystegia pubescens*, and verbenas St. Margaret, Defiance and Iphigene. From J. Breck & Co., *Clématis florida* and *Sieboldii*, *Delphinium Breckii*, *Bärlowi*, &c., and other flowers. From Jas. Jackson, cut flowers of the new and pretty *Zauschneria californica*. Cut flowers, bouquets, &c., from Winship & Co., J. Nugent, P. Barnes, B. E. Cotting, E. Winslow, A. Bowditch, E. Burns, J. Hovey, Miss Barnes, Miss Kenrick, and others.

FRUITS.—From O. Johnson, fine specimens of the following cherries:—Black Eagle, Mottled Bigarreau, Florence, Black Tartarian, and Napoleon Bigarreau; also, Jenney's Seedling strawberries. From J. F. Allen, grapes, peaches, and nectarines. From T. Needham, Cannon Hall Muscat, and other grapes. From J. S. Sleeper, Seedling cherries. From A. Parker, White Bigarreau cherries, and fine gooseberries. From C. Carruth, gooseberries. From J. Gordon, Franconia raspberries.

From Hovey & Co., Wilmot's Black Hamburg, No. 16, grapes. From E. Burns, fine Black Hamburg and Muscat of Alexandria grapes. From Jos. Richardson, Richardson's Late strawberries. From Geo. Walsh, fine new large Black Bigarreau cherries. From C. Newhall, Knevet's Giant raspberries. From K. Bailey, Red and White raspberries.

July 20. Exhibited.—**FLOWERS:** The exhibition of carnations and picotees, and hollyhocks, for premium, took place to-day, and we regret to state, that there were very few competitors. The principal display of the former was made by Messrs. Hovey & Co., who had about 40 varieties, many of them seedlings, of great beauty. The ten *winning* flowers were as follows:—Wilson's William IV, Duke of Newcastle, (picotee,) Barker's Queen, Squire Clark, Youell's Heroine, (picotee,) Beauty of Cambridge, (picotee,) Crask's Queen Victoria, (picotee,) Kinfane Hero, Lady Peel, (picotee,) and a Seedling; Messrs. H. & Co. also sent a collection of hollyhocks. From J. Breck & Co., hollyhocks, in variety, and other flowers. From James Nugent, *Lilium speciosum rubrum*, *Torenia asiatica*, and other flowers. Flowers and bouquets from the President, A. Bowditch, J. Hovey, W. Kenrick, Dr. W. F. Channing, (who sent a double flower of *Azalea viscosa*, found wild;) L. Davenport, P. Barnes, I. Spear, E. M. Richards, Winship & Co., Miss Barnes, and others.

PREMIUMS AND GRATUITIES AWARDED.

CARNATIONS AND PICOTEES.—For the best ten flowers, to Hovey & Co., \$5.

For the second best, to Hovey & Co., \$4.

For the best display, to Hovey & Co., \$3.

HOLLYHOCKS.—For the best display, to Hovey & Co., \$5.

For the second best, to Breck & Co., \$4.

GRATUITIES.—To Jas. Nugent, for carnations, &c., \$2.

To Breck & Co., Winship & Co., L. Davenport, P. Barnes, A. Bowditch, Miss Russell, J. Hovey, and Jas. Nugent, for cut flowers, each \$1.

FRUITS.—From W. Young, gardener to Mrs. F. B. Durfee, Fall River, very beautiful specimens of Victoria, Black Hamburg, and West St. Peter's grapes. From Hovey & Co., Wilmot's B. Hamburg and other grapes; also, Early York peaches, Franconia raspberries, and Seedling cherries, very large. From J. F. Allen, peaches, Sweet Montmorency cherries, Franconia raspberries, and Prince Albert grapes, not fully ripe or colored. From E. F. King, handsome peaches. From O. Johnson, Fastloff, Knevet's Giant, and Franconia raspberries, fine. From Jes. Lovett, currants, and splendid Knevet's Giant raspberries.

Red and White Dutch currants were sent by A. Parker, and C. E. Grant. Raspberries as follows:—C. Newhall, Knevet's Giant, fine; E. Bemis, Fastloff; J. Richardson, Franconia; L. B. Comins, Franconia. From Messrs. S. & G. Hyde, Seedling cherries. From H. Vandine, Elkhorn cherries. From G. Merriam, Downer cherries. From G. Walsh, cherries. From J. Nugent, grapes. From J. Hovey, Whitesmith gooseberries. From I. Fay, Amire Joannet pears.

July 20. An adjourned meeting of the Society was held this day,—President Walker in the chair.

A communication was received from the New York State Agricultural Society, for which the thanks of the Society were voted.

A communication was also received from the Chester County Horticultural Society, for which the thanks of the Society were voted.

John R. Bradley, Boston, Horatio Chickering, Dedham, and Geo. Leland, Waltham, were elected members. Adjourned two weeks, to August 3.

*Exhibited.—FLOWERS:—*From the President of the Society, Hovey & Co., Breck & Co., P. Barnes, A. Bowditch, L. Davenport, J. Nugent, W. E. Carter, Winship & Co., W. Kenrick, Miss Kenrick, J. Hovey and others.

*GRATUITIES AWARDED.—*To Breck & Co., for cut flowers, \$2.

To P. Barnes, J. Nugent, A. Bowditch, L. Davenport, W. E. Carter, Winship & Co., J. Hovey, Miss Russell, Miss Barnes, and Miss Kenrick, for cut flowers, each \$1.

*FRUITS.—*From Hovey & Co., Wilmot's Black Hamburg No. 16, and four other sorts of grapes; four kinds of peaches, Elruge nectarines, fine White Dutch and Victoria currants, and Black Bigarreau of Savoy cherries. From O. Johnson, St. Michael figs, and White and Red Dutch currants. White and Red Dutch currants from A. D. Williams & Son. From A. Parker, Victoria currants. From C. Newhall, Knevet's Giant raspberries, and Vermash nectarines. From Geo. Wilson, fine White Dutch and Cherry currants. From E. F. King, peaches. From Jos. Lovett, Seedling currants, and fine Fastolf raspberries. From A. D. Weld, fine currants and raspberries. From M. H. Simpson, Golden Chasselas grapes. From C. E. Grant, Ohio Ever-bearing raspberries. From C. Brines, fine gooseberries. From J. Hovey, gooseberries. Mazzard cherries from S. Dike.

AWARD OF PREMIUMS FOR FRUITS.

*CHERRIES.—*For the best specimens, (Black Tartarian,) to O. Johnson, \$6.

For the second best, (New large Black Bigarreau,) to Geo. Walsh, \$4.

*GRAPES.—*For the best specimens, grown under glass, before the first Saturday in July, to E. Burns, \$10.

For the second best, to T. Needham, \$7.

*PEACHES.—*For the best twelve specimens, grown under glass, before the first Saturday in July, to J. F. Allen, \$6.

For the second best, to O. Johnson, \$4.

*STRAWBERRIES.—*For the best specimens, (Hovey's Seedling,) to O. Johnson, \$6.

For the second best, (Hovey's Seedling,) to Jos. Richardson, \$4.

For the third best, to Hovey & Co., for the same variety, \$3.

To W. H. Jenney, a gratuity of \$4, for fine specimens of Jenney's Seedling.

HORTICULTURAL OPERATIONS

FOR AUGUST.

FRUIT DEPARTMENT.

GRAPE VINES, in the greenhouse or vinery, will now be approaching maturity, and the earlier sorts will be ripe by the 20th of the month, and less

attention will now be required than heretofore; as the berries get well colored the watering of the house should be done less frequently, until it is discontinued altogether; abundance of air should be given, and in very mild nights, the sashes may be left open for a slight ventilation; it will have a tendency to give a better color; continue to stop the laterals as they require it. New vineries, planted this year, should be kept rather close, to encourage a free growth, and should be freely syringed. Vines in cold-houses, should now be carefully tended, as neglect might be the cause of mildew, which frequently steals in when the cultivator least thinks of it. Keep the laterals stopped in, and damp down the walks, morning, noon, and night. Vines in pots should have an abundant supply of water or liquid manure. Hardy grapes should now have attention; prune off all superfluous wood, and stop the fruit-bearing laterals as often as they break anew.

STRAWBERRY BEDS should now be put in order for making new runners, by digging in the old roots and allowing the young plants to occupy their places. New beds may be successfully made the last of the month.

RASPBERRY PLANTATIONS should be looked after when the fruit is gathered; if the old canes are then cut down, it will encourage the growth of the young suckers.

FIG TREES in pots, now ripening their second crop, should be watered freely with liquid manure or guano.

PEAR, APPLE, AND OTHER FRUIT TREES, should now be summer pruned, as we have repeatedly advised; root-pruning may now be successfully performed, as will be seen by an article on a previous page.

FLOWER DEPARTMENT.

DAHLIAS should be closely watched; keep off all suckers which constantly spring up; prune off some of the laterals, mulch the ground with old manure or short grass, and if dry, give the roots a good drenching with water, once in ten days; see that the shoots are securely tied to the stakes.

WHITE LILIES may be taken up this month.

CARNATIONS and **PICOTEEs** should now be carefully layered, selecting only the best ripened shoots.

PANSIES should now be layered, or propagated from cuttings, for new beds, for blooming in spring.

PELARGONIUMs, headed in last month, should now be repotted, reducing the ball, and sheltering them from the hot sun a few days, until well rooted.

CAMELLIAS should now be repotted, if not already done; attend to the sowing of seeds, where they have been impregnated; grafting may now be commenced.

CHRYSANTHEMUMs may now be shifted into larger pots; fine plants may now be raised by laying the tops of the shoots into small pots.

VERBENAS for early winter blooming, should now be propagated from cuttings.

HELIOTROPES for winter flowering, should now be shifted into larger pots, and headed in.

OXALIS BOWIEI AND **HIRTA**, should now be potted.

CALLAS should now be repotted, and more liberally watered.

THE MAGAZINE OF HORTICULTURE.

SEPTEMBER, 1850.

ORIGINAL COMMUNICATIONS.

ART. 1. *Polmaise Method of Heating Greenhouses and Hothouses, compared with Hotwater, scientifically and practically considered.* By R. B. LEUCHARS.

IN endeavoring to draw a comparison between the two methods of heating above mentioned, it will be necessary to consider briefly the conditions which constitute the primary laws of heat, and to which all methods of artificial heating are subject.

Heated bodies give off their caloric by two distinct modes, radiation and conduction; these are governed by different laws, but the rate of cooling by both modes increases considerably in proportion as the heated body is of greater or less temperature above the surrounding medium. This variation was long supposed to be exactly proportional to the simple ratio of the excess of heat, that is to say, supposing any given quantity of heat evolved in a certain time, at a specified difference of temperature, at double the difference, twice the quantity of heat would be given off in the same time. This law was originally proposed by Newton in his *Principia*, and although rejected as erroneous by some philosophers it was adopted by many others, and was usually considered accurate until the elaborate experiments of Petit and Dulong proved that, though approximately correct for low temperatures, it becomes exceedingly inaccurate at the higher degrees of heat.

The cooling of any heated body, of whatever material, is

evidently the effects of *radiation* and *conduction*. The air, however, *as a body*, has no conductive power, at least it may be ranked as the worst conductor with which we are acquainted. The conductive power it possesses, as an atomic mass, is principally owing to the extreme mobility of its particles, for when confined in such a manner as to prevent its freedom of motion, it *will not conduct heat*, and is then a most useful medium of *non-conduction*.

The cooling of a body by the conduction of the air, *i. e.* by the mobility of its atoms, is somewhat different from the effect of radiation, that while the ratio of loss by conduction continues the same, for the same excess of temperature, whatever be the absolute temperatures of the air and heated body, radiation increases in velocity for like excess of temperature, when the absolute temperatures of the air and heated body increase.

Hence it is evident that, while the conductive power of Polmaise drains, or channels of conduction, does not increase in proportion to the increase of generated heat, the radiating power of hotwater pipes, or other media of radiation, increases in proportion to the increase of conducted heat, and that the air of a hothouse increases in proportion to the absolute temperature of the medium of radiation.

The following table shows the law of cooling by radiation for the same body at different temperatures, which will render this argument clearer to those who have not attentively studied the subject :

Excess of temperature of the thermometer.	Velocity of cooling when the surrounding medium is at the undermentioned temperatures.				
	0°	20°	40°	60°	80°
220°	8.81	10.41	11.98	11.64	—
200°	7.40	8.56	10.01	9.55	—
180°	6.10	7.04	8.20	7.68	—
160°	4.89	5.67	6.61	6.14	6.74
140°	3.88	4.75	5.32	4.84	4.01
120°	3.20	3.56	4.15	3.68	3.00
100°	2.30	2.74	3.16	2.29	2.20

The fact that the ratio of cooling of those bodies that radiate heat, is more rapid at low temperatures and less

rapid at high temperatures, than those bodies which radiate most, is one of the most remarkable of the laws of cooling, and has led many practical men into serious mistakes, in estimating the merits of hot-air heating.

The atomic particles of atmospheric air, being separated and rarefied by the application of a high temperature, it is plain that this air must be changed in its properties, and this is practically correct.

Atmospheric air in passing into a house at a high temperature, over a highly heated surface, not only loses its water; but the small particles of organic matter, which it holds in suspension, are decomposed by the heat, and resolved into various elementary gases. This is one of the causes of the unpleasant odor which invariably results from this method of heating, as in common stoves, Polmaise furnaces, &c.; but, in addition to this, the aqueous vapor of the atmosphere is almost entirely decomposed, the oxygen entering into combination with the iron wherever it can act upon it, and the contained hydrogen, now set free, mixes with the air. The changes which have thus taken place renders the atmosphere deleterious in an extraordinary degree, both to animal and vegetable life.

The mixture of the hydrogen, thus disengaged, is even more injurious to the plants than the alteration which has taken place in the hygrometric condition of the atmosphere, as this will be for some time supplied by the water contained in their tissue, until it be restored by absorption or evaporation, which is easily effected.

The particles of animal and vegetable matter, as I have said, are rapidly decomposed by the heat, and they then produce extraneous gases, consisting of sulphuretted, phosphoretted and carburetted hydrogen, which, in the state in which they then exist, are highly inimical to every species of vegetable life.

The quantity of hydrogen eliminated by the decomposition of water is 1325 cubic inches for every cubic inch of water that is decomposed. It is, therefore, easy to account for the effects produced on vegetation by hot-air currents, in

consequence of the air, when thus artificially dried, abstracting too much moisture from the leaves. It is also clear that the injury must increase in proportion to the length of time the apparatus continues in use, (*i. e.* without intermission and change of the internal atmospheric volume by the plants being compelled to inhale these extraneous gases,) and in no other way can the purity of the internal volume be restored.

The extreme dryness of the atmosphere, after its hygrometric condition has been changed, is, in the experience of every one, productive of the very worst consequences to growing plants. To remedy this condition of things troughs of water are placed over the heating surface, so as to moisten the atmosphere by evaporation. The evil is in some degree mitigated, so far as mere moisture goes, but only in the upper regions of the house, for the rarefied air immediately carries the water it holds in suspension directly upwards, so that the lower portions of the atmosphere are not in the slightest degree affected by it.

Let us suppose, however, that the whole atmosphere has its equivalent of water restored, (which it has not,) we have not yet got rid of the evil, for we are just supplying the heated air with more moisture to decompose, and hence the quantity of extraneous gases must continue to increase, and also their effects, so long as the evaporation and decomposition continue. Unless, therefore, some method be devised for recombining these gases with other bodies, or neutralizing them by the same means, the effects of the decomposition of water by the heated air still remain, notwithstanding the evaporation of the same element by the same agent of decomposition.

The heating by means of brick flues, is, in some respects, similar to the effects produced by currents of hot air; but this is only when the flues are overheated, which is or ought to be quite unnecessary. In the latter case the unwholesome smell is also produced by the decomposition of the organic matter in the atmosphere, and probably, in some instances, of a small portion of sublimated sulphur from the bricks as well as by the escape of various gases through the joints or

accidental fissures of the flues. These contingent causes may, however, be in a great measure avoided by good workmanship and material. The hygrometric vapors of the atmosphere are not decomposed by this system of heating as by a hot-air furnace, because, when the flues are warmed to a common temperature, the heat is perfectly pure, and the materials of which the flues are built, having but little affinity for oxygen, they are consequently more healthy than hot-air stoves.

Boston, August, 1850.

(To be continued.)

ART. II. *Descriptions and Engravings of Select Varieties of Cherries.* By the EDITOR.

WE now continue our descriptions of the different varieties of cherries, after the lapse of a year, in consequence of the entire failure of the crop in the vicinity of Boston, in 1849. Our last article appeared in 1848, (Vol. XIV, p. 385,) when we gave an account of three varieties, in addition to three in the previous volume, (1847.) In the present volume we hope to add several to the list, and another season to complete the entire number of really valuable cherries worthy of cultivation.

7. ELTON. Hort. Soc. *Catalogue*, 3d Ed. 1842.

It is somewhat remarkable, that a cherry possessing so many superior qualities as the Elton, (*fig. 21*,) and introduced into our gardens so long ago, should yet be so little known or disseminated. It was one of the seedlings of the late Mr. Knight, president of the London Horticultural Society, raised in 1806, and scions of it were forwarded to the Hon. John Lowell as early as 1823; yet it is, comparatively speaking, a new cherry. The fruit is rarely, if ever, seen in our markets, and it is seldom that it is shown at the exhibitions of our horticultural societies. Varieties unwor-

thy of cultivation, compared with this, have been very recently brought to notice, and have been allowed to fill up the collection of the amateur, to the neglect of the Elton and other sorts of far greater excellence. We trust our descriptions of this and other equally meritorious kinds, long introduced but long neglected, will make them better known, and much more extensively cultivated.

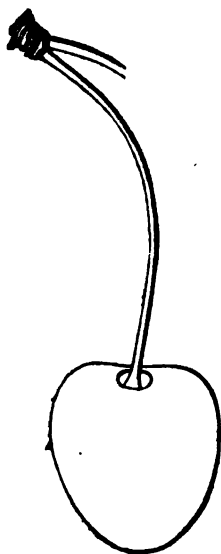


Fig. 21. *The Elton.*

The Elton is one of the largest of cherries, long heart-shaped in form, with a pale amber skin, and bright red cheek. The tree is a very vigorous grower, with a spreading and somewhat pendent habit, and the leaves are conspicuously large and handsome. The fruit is borne in pairs on rather long stems.

According to the *Pomological Magazine*, (Vol. II, p. 92,) where the Elton is beautifully figured, this variety was raised by Mr. Knight from a seed of the Graffion or Ambreé cherry, (known as the old Bigarreau,) which had been fecundated by the pollen of the White Heart. Its merits, says the same work, "can scarcely be too highly spoken of. In flavor it is by many considered the most delicious of cherries." This estimate of its qualities is fully maintained after long cultivation in our climate, and it must be considered as one of the most valuable varieties, indispensable in every good collection.

The tree is of a vigorous and upright habit, making rather long annual shoots, and forming a regular but open head.

Size, large, about one inch long, and seven eighths of an inch in diameter: *Form*, oblong heart-shaped, broad at the base, narrowing to the point, and somewhat flattened: *Skin*, clear yellowish amber, deeply tinged with pale red on the sunny side: *Stem*, rather long, about two inches, somewhat

slender, and inserted in a small, moderately deep cavity : *Flesh*, pale amber, tender, juicy, rich, sweet, and delicious : *Stone*, ovate, medium size. Ripe about the middle of June.

8. EARLY PURPLE GUIGNE. Hort. Soc. *Cat.*, 3d Ed. 1842.

Early Purple Griotte. Hort. Soc. *Cat.*, 3d, 1842.

This fine early cherry, (*fig. 22.*) though introduced some years ago, and beautifully figured and accurately described in the *Transactions* of the London Horticultural Society in 1830, (Vol. VIII,) where Mr. Thompson has given a flattering account of its merits, is scarcely known to American cultivators only through the medium of pomological works. We have had it in our collection eight or ten years, the last three or four of which it has produced a small crop; but from its earliness, being nearly ripe before any others begin to color, except the May Bigarreau, the robins each successive year gathered what few there were. This year the crop was more abundant, and the branches clothed with fruit, and being determined to see a variety which had been so highly eulogized, we covered up a few limbs, and thus succeeded in securing specimens which quite astonished us. They were not only of large size, but they ripened earlier than the May Bigarreau, were considerably larger, and were even richer than that fine sort. It possesses all the qualities of a good cherry, and we can commend it as worthy of a place in every choice collection.

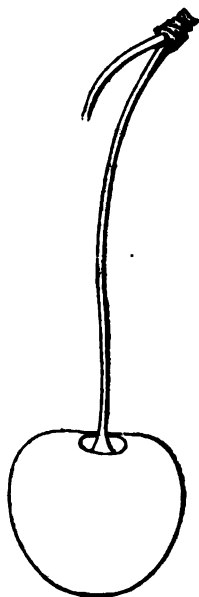


Fig. 22. Early Purple Guigne.

The tree is not a very vigorous grower, nor of so good a habit as some other sorts. The branches are slightly pendent, and the head somewhat loose and irregular. It is, however, an abundant bearer.

Size, medium, about three quarters of an inch long, and seven eighths of an inch in diameter : *Form*, roundish heart-

shaped, broad at the base, narrowing to the apex, with an indistinct suture, and a large indented point: *Skin*, dark red, becoming of a rich glossy purplish black when fully ripe: *Stem*, very long, about two inches in length, slender, and moderately inserted in a rather shallow cavity: *Flesh*, deep purplish red, tender, juicy, rich, sweet and excellent: *Stone*, medium size, roundish. Ripe the last of May and beginning of June.

9. WERDER'S EARLY BLACK HEART. Hort. Soc. *Catalogue*, 3d Ed. 1842.

Werdersche Frühe Schwarze Herzkirsche. Hort. Soc. *Cat.*, 3d Ed. 1842.

Werder's Early Black (*fig. 23*,) is a most excellent cherry, somewhat resembling the old Black Heart, but a richer fruit. It is yet quite rare in collections, but when it becomes better known it will be eagerly sought after by all who desire a complete assortment of the finest cherries. The tree is a vigorous grower, making a fine head, and the fruit appears less liable to crack from heavy rains than many other sorts. It comes in just after the Early Purple Guigne, and keeps up the succession until the Tartarian and others of the same season are ripe.



Fig. 23. Werder's Early Black Heart.

Size, medium, about three quarters of an inch long and seven eighths of an inch in diameter: *Form*, roundish heart-shaped, slightly uneven on the surface, with a shallow suture, and little flattened at the apex: *Skin*, dark purplish red, becoming of a shining black when fully mature: *Stem*, medium length, about one and three quarters of an inch long, rather slender, and inserted in a shallow cavity: *Flesh*, dark purplish red, tender, juicy, rich, sweet and delicious: *Stone*, rather small, roundish ovate. Ripe about the middle of June.

ART. III. *Remarks on Dwarfing Fruit Trees.* By R. ERRINGTON. *With Remarks.* By the EDITOR.

No subject, at the present time, is more generally interesting to cultivators of fruit, than the growth and management of dwarf trees. For all the purposes of garden culture, they are rapidly taking the place of standards, which, with few exceptions, do not come into bearing for a long period ; and occupying much space, shading a great part of the ground with their large heads, exposed to injury from high winds, and, withal, rendering the gathering of the fruit laborious and troublesome, they are much better adapted for orchards than for the neat garden of the amateur.

To derive, however, all the great advantages from dwarf trees, which they are capable of affording, requires some little knowledge of their management. True, they will thrive and produce fruit under very ordinary culture ; but from the great variety of soils and aspects where trees are planted, it is necessary that they should have varied treatment according to the conditions in which they are placed.

In our last number we presented our readers with an excellent article on root-pruning, the object of which practice is to accomplish early bearing on trees planted in rich deep or trenched soils, where they run too much to wood. Under such conditions of vigor the trees, unless so treated, become one dense mass of branches and shoots, running out of the reach of the cultivator, producing no fruit, and, eventually, no better than standard trees. Root-pruning, in such cases, is the only remedy to keep them within bounds ; cultivators and amateurs, therefore, who object to the labor of root-pruning, should reject trenched ground and plant on rather thin soils, where the roots can be "fed up" and receive their nourishment from the surface, in the annual dressings of manure and the "mulchings" from the stable. Mr. Errington's remarks on this head are particularly valuable, and those who possess only shallow soils, and who may have been told that their land was not adapted to the pear, should

feel encouraged by his timely advice, and be induced to go on and plant, confident of success in the end.

It is unnecessary for us to follow the author through his interesting paper. His advice is excellent, and we trust it will have the good effect of greatly increasing the cultivation of dwarf trees:—

In former days it was the custom to attempt the dwarfing of fruit trees, chiefly in order to render them more ornamental, or to produce grotesque forms, to which the vulgar imparted imaginary characteristics, on account of their mere eccentricity.

Now, however, it has become absolutely necessary to systematize a dwarfing system for other purposes. In the first place, the immense increase in fruits of superior character,—which in many parts of the kingdom deserve a wall,—has been so great, that since walls could by no possibility be found for them, the inventive faculties of horticulturists have been taxed severely, in order to adopt some mode of culture which shall guarantee to them an amount of atmospheric heat superior to that of the ordinary standard or orchard tree.

It has, moreover, been proved beyond all question, that a dwarfing system, when properly carried out, is highly conducive to precocity in point of fructification; it consequently leads to great economy of space,—a matter of the very highest import to the cultivators of small gardens in the vicinity of our busy towns, many of whom are amongst the most ardent of our cultivators.

Again, it is of the utmost importance to persons thus situated, so to arrange their limited gardens, that a full amount of vegetable produce may not be lost sight of. This, it is well known, is accomplished in the most perfect way, by a dwarfing system in fruits; whereas, by the old plan of encouraging standards, or coarse overgrown trees, few vegetables were brought to that perfection of which they are capable; indeed, I have frequently known gardens so smothered, that scarcely a well-grown cabbage could be obtained in a perfect state. Lettuces, peas, and indeed most other

culinary crops, will be found "drawn," as it is termed, by practical men; and not only deteriorated in size, but in flavor and nutritious qualities.

There has in later years been a great increase in those interesting little suburban plots, termed amateurs' gardens; a great many of these are either wrought in part by the proprietor himself, or at least under his superintendence. Many of the owners of such gardens are occupied most of the day in matters of trade; and the pleasures of horticulture are of course enjoyed with a peculiar zest when a leisure moment occurs. To such, a dwarfing system of fruit-culture is invaluable, combining, as it does, the advantages before enumerated, together with little matters of manipulation of a light character, and exceedingly interesting to those who seek relief to the mind from the dull mechanical tedium of commercial affairs.

Such gardens, it is well known, are for the most part severely limited as to space; yet, by a systematic procedure in regard to fruits, it is astonishing what a collection may be compressed within the limits of one of these recreative homesteads; in fact, a very excellent miniature collection within an enclosure of a quarter of an acre.

"Little things are great to little men," according to the old saying; and these miniature matters, although it may be of a trivial character in the estimation of those who do things by wholesale, yet are conducive to the health and happiness of thousands, producing their daily quota to the gastronomic delights of the household, and feelings of a much higher character to those who "look through nature up to nature's God."

The ornamental character, too, of a system of dwarfed fruits, although a matter certainly second in importance to their utility, is not to be lost sight of entirely.

A little garden possessing a miniature collection of fruits and well-grown vegetables is indeed a *multum-in-parvo* affair; it shows forth at a single glance the triumph which the collective experience of many, very many, years, aided by the lights of science, has at last accomplished, and fur-

nishes a hint even to our brethren of the plough, of what may be done by perseverance ; and that it is not merely the number of acres a man possesses, but the amount of application, aided by a mind of expansive character, that signalizes efforts in this way.

Whilst pointing to the benefits to be derived by carrying out such a course of culture, it ought not to be forgotten that, within the range of her majesty's dominions, at home, a variety of climate occurs. People about the great metropolis, who do care about the thrice-told tales of cool climates farther north, may and do think that too much fuss is apt to be made about warm aspects, ripening the wood, protection and all those minutiae, which those who have gardened far north, or in localities of considerable altitude, have been compelled to pay regard to. So various, however, are the conditions in this respect, that it is next to impossible to lay down one set of rules for fruit culture, even for Britain alone, to say nothing of British possessions across the water ; for our neighbors, or dependencies in the colonies, have no doubt frequently profited by the sound advice which flows from the horticultural press of Britain.

Having stated thus much as a preliminary introduction to some general remarks I wish to offer, I will now proceed to point out a few of the main principles which must at all times influence proceedings in this way, be the clime what it may, capable of modification nevertheless, such modification dependent in the main on the average amount of solar light, together with the average of atmospheric humidity. Herein lies the basis of the whole argument, according to my opinion, for the question of heat appears to me as a secondary consideration.

Depth of Soil.—Although all other requisites are duly carried out in establishing fruit trees on a strict dwarfing system, if the soil is prepared too deep, it will have a continual tendency to mar all other efforts.

Depth of root, when considerable, especially if the soil be of a generous character, is sure to produce a late root-action, and this is as sure to prove an impediment to the perfect

ripening of the wood, which latter point might, in all probability, be urged as the proper groundwork of the whole affair. If any one doubt the importance of this principle, let him cast his eyes on the thorn family, and behold the vast difference in character between the pampered thorn-tree in some trenched plantation, and the short-jointed, stubby-looking tree on some elevated clayey knoll. Now I contend, the habits and mode of bearing of the thorn being as near as may be analogous to the bulk of our cultivated fruits, that the first described thorn is a fair counterpart of at least eighty per cent. of our kitchen garden fruit trees in Britain, whilst the other case will equally prove an illustration of what a dwarfing system can accomplish. Every body knows the immense fertility of the thorn situated on a knoll of poor soil, and equally so the comparative barrenness and profusion of young shoots which attend the other case. To be sure, high culture here is admirably adapted to produce a good hedge. We need scarcely urge, however, that the two objects in view are as opposite as the poles; for what is so great a nuisance in a compact and neat little fruit garden as coarse growing fruit trees continually overpowering their more moderate neighbors, and threatening to monopolize the limited plot of ground to themselves? The proprietor is continually tempted, maugre the fine high sounding titles on the neat labels, to cut them down, but the old idea of "try them another year" comes many a time to their rescue; and thus they continue a pest, the poor unfortunate proprietor continuing, with much assiduity, to prune away annually a profusion of coarse shoots, all produced to no other purpose than to exhaust soil, which might have been much better employed.

It may hereby fairly be inquired, what is a shallow soil, or rather, what that precise depth, if there be one, which suits the majority of our fruit trees? To answer this by offering a specific depth would indeed be an arbitrary mode of settling such matters. Soils, subsoils, and sites, differ so much as to render this unnecessary. Moreover, like the celebrated drainage question amongst our agricultural neigh-

bors, the question of depth, if argued to a nice point, might lead to much useless controversy, for which the public has neither time nor inclination. I may nevertheless be permitted to quote my own practice, which I may without egotism be permitted to say has been exceedingly successful, extending over a course of many years. Twenty inches, then, I consider the maximum depth at which our fruits for dwarfing should be planted; indeed I have peaches and nectarines second to none, which have been planted a dozen years or more; these had only fifteen inches of loamy soil allowed them.

I would here respectfully point to a very common error concerning depth of prepared soils for fruit trees. It is common with those who are well experienced in the diversity that exists in soils, as well as in the prejudicial effects which oozy or wet subsoils are liable to produce, to advise planting *above the ground level*. I have known persons in such cases still make the amount of soil *below the level* of the same depth, whereby, if elevated considerably, the whole of course constitutes a greater volume, and is a departure from the principle laid down. The measurement should, of course, take place from the apex of the mound, or at least the height it is intended to attain; in such cases it is well to take the liberty of adding two or three more inches, unless water is present at a certain level, in order to prove a counteracting power to the influence of extreme drought in hot summer.

From the question of more depth I must take the liberty of adverting to that of quality. A soil may be deep, yet poor; it may be shallow, yet rich; we must therefore learn to separate these matters. In later times so much has been said or written about the evil effects of introducing manures,—especially those of the animal kind,—into our fruit borders, that it may at first sight appear a work of supererogation to moot the question. It is plain, nevertheless, that the public are not yet sufficiently informed on this head; and that even as “little strokes fell great oaks,” so must repeated observations, through the medium of the press,

establish ultimately a system to guide those who do not fully understand the bearing of the question.

In the more practical gardening of former days, deep trenching or digging and a liberal manuring formed in the main the practice pursued in making new plantations of fruits. However, it was very common, some thirty years since, to find a great portion of the quarters in our old kitchen gardens overshadowed by huge old fruit trees, giving ample evidence of over-cultivation originally. Their vegetables were of course inferior in character, and the whole garden in consequence wore an unsystematic appearance. Subsequent experience has proved that it is of more importance to attend to the mechanical character of the soil, and that the mixing of manures with the bulk of the soil had better be dispensed with, since any necessary amount of nourishment may be carried out by a system of top-dressing or mulching.

The benefits of the latter process, indeed, are but half estimated as yet.

When it is taken into consideration what a tendency mulch has to encourage surface fibres, which are well known to tend to a fructiform habit, it is somewhat astonishing that the practice is still so limited. Another point too must be observed, and that of no mean importance, viz., the great utility of surface manure, in preventing the injurious effects of sudden droughts, which not unfrequently cause trees to cast a considerable portion of their fruits.

Amongst other adjuncts of a dwarfing system, the selection of proper stocks on which to bud or graft our superior fruits, is a question of the very highest import. It is strange to think that the quince stock, so valuable for dwarfing the pear, has not come into more general use. Two points concur to hinder its almost universal adoption, viz., its ineligibility for producing a showy tree in a short time in the nursery, and the uncertainty that at present exists as to its thriving on any given soil. With regard to the first, it is in part a nurseryman's question. Pears grafted on the free or pear stock, will make stout plants in half the time of those

grafted on the quince; the nurseryman therefore naturally prefers the pear stock, for the plants appear much superior to the eye of those who do not fully understand the matter. Indeed, if the nurseryman must be compelled to work on the quince, it is but fair that he should be permitted to charge nearly double the price for them, for not only would they require nearly double the time to make established plants, but in many cases he would have to apply peculiar dressings to his soil, to fit it for their culture.

In my opinion it is vain to plant pears on such stocks, in soils not adapted for the quince itself; those who are using pear or quince stocks, therefore, should consider the natural habits of the quince.

One of the most essential points, as far as my experience of the quince reaches, is to secure a permanency of moisture in the soil; without this the trees may grow, but the fruit will be liable to become mealy and insipid. Indeed similar effects are known to follow with the pear on the free stock. I have known them crack or rift almost in pieces, through the effect of drought, on sandy or weak soils. The quince, moreover, can hardly be too highly cultivated; and be the soil of a garden what it may, the ground can soon be rendered suitable, providing the platform mode of planting be adopted. As to providing a soil permanently moist, I suppose we must use a liberal amount of a tenacious loam in the soil, the other portion should be of very sandy old vegetable soil; such as equal parts of very old cow-manure, leaf-mould, old spent tan, and boggy soil, adding some fine sand. By this mode of procedure, I have been enabled to grow the pear on the quince in the very highest degree of perfection at Oulton Park, whereas the ordinary soil is by no means suitable.

Here again, in order to secure a regular moisture, mulching should be had recourse to; the quince moreover makes abundance of surface fibres, and these revel beneath a coating of rotting surface manure.

The remarks here offered concerning the quince apply in a considerable degree to the Paradise stock for apples. The

Paradise, however, will thrive in any good sound loam, and this may be slightly manured for them, or at least some half decayed vegetable matter may be blended with the soil. These, too, should be mulched annually, in order to carry out the objects before explained.

With regard to plums, most of the stocks used by our nurserymen are of too gross a habit for a dwarfing system.

What is called the "Brussels," we believe, is an exceedingly gross stock; that termed the Muscle or Mussel stock, is, we believe, more moderate in growth, and would answer better.

In the question of stocks, however, much has to be learned, and many trials ought to be at once instituted by some public body, such as the Horticultural Society of London, in order to set the matter at rest forever. About five years would suffice to throw all necessary light on the subject, and the trials should embrace everything likely, especially stocks of a hardy character, and which thrive in their own native ordinary soils. For instance, the black thorn or sloe; why may not this answer for the plum on a dwarfing system?

I would now advert to what I must term the great mistake of former days in regard of trained fruits. Everything was to be carried out by peculiar modes of training; hence we had, for a series of years, a host of systems, so termed; in addition, too, great niceties in the pruning art were introduced, and shown forth in many a tempting diagram, tempting I mean to those who were still merely scanning the surface of the affair. At last, a more comprehensive view of the subject began to be taken, and pruning and training fell into a secondary position.

Limitation of branch was now supposed to require a corresponding amount of limitation at the root, and from that period may be dated a sound reform in fruit culture. The whole matter has now taken what I conceive to be a healthful tone, and I have little doubt that, during the next seven years, most of the gardens in the kingdom will present a new and much improved aspect.

In all cases of dwarfing fruit trees, it is of much importance to keep the various kinds classified in the mind's eye. Thus, one section depend almost entirely on the old spur for their fructiferous habits; another, almost entirely on that of the annual wood; whilst not a few depend on a combination of both characters of wood. These things should not be lost sight of, as, whatever the root-culture may be, the natural habits of the kind in question should be carefully borne in mind. As a general maxim, it is well not to allow the mind to be too much biassed by any set plan, (or system, to use a dignified title,) but to combine such wherever an eligible opportunity presents itself, reserving the chance of returning to either whenever the age, condition or circumstances of the kind render such a course eligible. Thus a pear, in its earlier stages, may be brought to bear on natural spurs alone; after a few years, however, most of the spurs towards the centre of the tree will become barren, in spite of cleverly devised pruning systems, and then it will be found good policy to change, in part, the tactics, and to commence tying down those young shoots on which nature has set the stamp of early fructification, evinced by a peculiarly short jointed character, and by turning brown betimes, together with an early cessation from growth, as compared with what is commonly termed watery wood. These are of course mere technicalities, and it is to be regretted that more popular terms do not exist by which to express them; the public mind, however, is fast ripening in these respects, and the day is at hand, in the which a due conception of such terms will not be confined to mere gardeners; our horticultural press, taking the form of the times, will shortly render all these things perfectly familiar, even to the inhabitants of our busy commercial towns.—(*Paxton's Mag. of Bot.*)

ART. IV. *Pomological Gossip.*

NOTES ON SEVERAL VARIETIES OF CHERRIES. Our correspondent, Mr. C. Downing, of Newburgh, has fruited quite a

number of varieties of cherries, and among them some of the newer sorts. He sends us the following notes after the trial of the past season :—

Early Purple Guigne, proves good with me.

Werder's Early Black, had only a few ; about as early as Knight's Early Black and rather more sweet and juicy.

Rockport Bigarreau fruited with me this season, and promises to be one of the very best early cherries.

Reine Hortense and Lemer cier appear to be the same, and promises to be a valuable Duke cherry.

Cumberland Seedling, large and good bearer, but not high flavor.

Bigarreau Gabaulis, large and showy.

Bigarreau d'Octobre and Buttner's Black Heart, which I had from Mr. Rivers, both fruited this year, but are not correct.

Mr. Downing has produced two very excellent seedling cherries, the Red Cheek and Champagne. They are exceedingly hardy and productive sorts ; the former resembling the Bigarreau and the latter the Downer.

THE HIGHBUSH BLACKBERRY. The magnificent specimens of this fine fruit, shown at the hall of the Massachusetts Horticultural Society this season, have surpassed those of any previous year, not only in quality but in quantity, many boxes (or quarts) having been presented at each of the weekly meetings in August. The finest specimens came from our correspondent, Capt. Lovett, whose excellent article on their cultivation appeared in our June number, (p. 261.) The berries were of very large size, some of them measuring *one and a half inches long*, and *thirty-four* of them making a layer of the ordinary quart boxes in which they are usually gathered. The blackberry is deservedly becoming a most popular fruit. It produces most abundantly, and comes in just after the raspberry, keeping up the season of the smaller fruits till September.

LIST OF FRUITS RECOMMENDED FOR GENERAL CULTIVATION BY THE NEW YORK STATE AGRICULTURAL SOCIETY, in addi-

tion to those already recommended, of which the names have been given in our volume for 1848, (XIV, p. 69.)

APPLES.

Dominie,
Wine,
Peck's Pleasant.

GOOSEBERRIES.

Whitesmith, (Woodward's,)
Crown Bob,
Green Walnut.

PEARS.

Doyenné d'Ete,
Andrews,
Flemish Beauty,
Urbaniste.

RASPBERRIES.

Fastolff,
Franconia,
White Antwerp.

PEACHES.**PLUMS.**

Madison.

Old Mixton Free,
Bergen's Yellow,
Crawford's Late.

CHERRIES.

Knight's Early Black,
Graffion,
Black Eagle,
Downer's Late.

CURRENTS.

Knight's Sweet Red,
White Grape,
May's Victoria.

We are glad to see the committee have made the Beurré Spence a synonyme of the Flemish Beauty, as adopted by us in the *Fruits of America*.

All the above fruits are described at length, accompanied with outline engravings of each.

NEW SEEDLING RASPBERRIES. We notice that our correspondent, Dr. Brincklé, of Philadelphia, has exhibited before the Pennsylvania Horticultural Society, six or eight varieties of seedling raspberries, which the committee notice as "very fine specimens." Dr. Brincklé has raised several seedlings, some of which he has named, but we have never yet seen the fruit of any of them. We hope another year to see specimens placed on the tables of the Massachusetts Horticultural Society, and have their merits tested. No fruit is more capable of improvement than the raspberry; and the production of a large fine fruit, and a hardy vine, one that

will live without protection in winter, is a great desideratum. We have no doubt, however, that this will be accomplished in a very few years.

GUTHRIE'S APRICOT PLUM. Some time since (p. 121) we copied a notice of this plum from the *Proceedings* of the Pomological Convention at Syracuse, and stated that our correspondent, Dr. H. Wendell, of Albany, who wrote the notice, had made a slight mistake in saying it was raised *at* Guthrie, instead of being produced *by* Mr. Guthrie of Tay Bank, Scotland. Dr. Wendell has since informed us that "the mistake was not his but the printer's, and is only one of a very large number which are to be found in his report as well as in the debates published in the proceedings." In a large number of copies distributed by Dr. Wendell, he made the proper correction.

THE MADISON PLUM. This new plum, one of Mr. Denniston's seedlings, was exhibited at the Pomological Convention at Syracuse, and tested by the committee on seedling fruits, whose notice of it appeared in the published *Proceedings*, and was copied into our Magazine, (p. 112.) Its excellence on further trial, (when the specimens were fully ripe,) was so great that the New York State Agricultural Society have published a full description of it, accompanied with an outline of the fruit.

This variety was an accidental seedling, which sprung up in the garden of Mr. Denniston, about seven years ago, and first came into bearing in 1848. In 1849 the tree bore about three bushels, many of which hung on the tree without decaying, shrivelling, or losing their flavor until the 10th of November.

The principal merits of this variety are the late period of the season at which it comes to maturity, its very prolific habit, and ability to withstand our severe and changeable winters without injury. It is supposed to be hybrid between the Bleeker's Gage and the Blue Gage, one of the former of which varieties is growing immediately adjoining it, and several of the latter which surround it on every side.

ART. V. *Notes on Gardens and Nurseries.*

A RECENT visit to some of the principal gardens in the vicinity, in company with a committee of the Massachusetts Horticultural Society, with a view to inspect the varieties of strawberries in general cultivation, enabled us to jot down a few hasty notes which may not be uninteresting. Our first visit was to

The Garden and Nursery of S. Walker.—The principal objects of interest here, besides the general collection of fruit trees, were two seedling strawberries, raised by Mr. Walker, one of which has been shown at the rooms of the Massachusetts Horticultural Society for two or three seasons, and giving promise of excellence. Mr. Walker set out a new bed last year, which was now in the most vigorous condition, bearing an excellent crop of fruit, each plant producing one truss, containing eighteen or twenty perfect berries, of a very rich dark color, and of moderate size; scarcely large enough, however, to give it a prominent place among the most desirable sorts for general cultivation.

The pear trees suffered here as well as in other places, and the fruit showed the injurious effects of the cold storms of May. A few new sorts were in bearing, but we had not time to examine them, and at this early season no very correct opinion could be formed of their merits.

The flower garden, though somewhat spotted with pear trees, still was gay with many of our old favorites,—*Lych-nis vesicaria pleno*, exceedingly pretty, with its spikes of double pink flowers, and the old yellow iris, very showy. Everything denoted the most perfect keeping in every department.

Garden of Capt. W. H. Austin, Dorchester.—The grounds of Capt. Austin comprise about two acres, situated on Pleasant street. The location is quite level and the soil rather light, but, notwithstanding this, every part of the premises showed the most thorough cultivation and the judicious management of the proprietor. The house, stable, carriage

road, &c., occupy nearly one quarter of the ground, but notwithstanding this, no less than four hundred dwarf pears on the quince have been planted, besides many plum, peach, and cherry trees, still leaving abundant space for raspberries, strawberries, blackberries, and the kitchen garden department.

The pears are mostly trained in the pyramid form, and are kept in compact shape by the method of summer pruning, which we have so often described. Many of the trees, though the oldest have only been set out five years, have borne fruit, and would have probably produced a good crop this year but for the inclemency of the weather in May. It was upon one of the dwarf trees that Capt. Austin raised the fine Duchess of Angoulême pear, weighing upwards of twenty ounces, of which we gave the beautiful drawing in the *FRUITS OF AMERICA*. The trees were this year covered with blossoms, but they dropped without setting a single fruit.

Capt. Austin is very successful in the management of his peach trees. They were branched near to the ground, and the bark was as smooth and clean as that of a pear tree. His practice is to wash, as we have frequently advised, with whale oil soap once a year; by doing this not a borer has troubled the trees. We were much gratified with our visit, and hope another year to see the place when the pears have a full crop.

Nurseries of Messrs. Breck & Co., Brighton.—The extent of ground occupied by Messrs. Breck & Co. is upwards of thirty acres, though only a small portion of it is under cultivation. It is situated near Cory's Hill, on the upper Brighton road, about half a mile from the village, and the grounds, from the highest part, command a splendid view of Brookline, Boston, Cambridge, and the surrounding country. A few acres are devoted to the nursery and a few to the cultivation of garden seeds. The flower garden contains nearly an acre, and this we found well filled with a fine collection of herbaceous plants, annuals, roses, &c. We noticed here several species of *Clématis* which have proved

hardy, viz., *C. Shillingii*, *Chandleri*, and *cylindrica*. *Hemerocallis variegata* is a very pretty species. *Campánula grandis* proves hardy, and is a most showy plant.

The roses were now just in their prime, and the specimens of *Mad. Hardy* and others were exceedingly fine. The pear trees, of which Messrs. Breck & Co. have quite a number set out for fruiting, looked exceedingly well, and were bearing some promising specimens; they seemed to have suffered less here than at other places. The stock of young fruit trees, of all sorts, had a vigorous and healthy appearance.

Garden of J. Gordon, Brighton.—Mr. Gordon's grounds almost adjoin those of Mr. Breck, and contain several acres, though only two or three are included in the garden. Mr. Gordon has been successful in his management of trees, and last year exhibited some remarkably fine specimens of pears, for which he was awarded the first premium. The location is well adapted to the culture of fruit, being protected on the east by a dense grove of pine trees, which break the cold and chilling winds. The land slopes off to the southwest, and is sufficiently elevated to give a free drainage to all superfluous water. Mr. Gordon's best pears have been produced on espalier trees, which were set out on an old border, made, in the most thorough manner, for peaches; but the latter not doing well, running all to wood from the richness of the compost, they were rooted out and their place filled with pears; these were now in bearing and exhibited some excellent specimens. The standard pears were also bearing a good crop, and the plums were literally loaded down, so that, as early as this, they had to have some of their limbs propped up; among the number was a *Golden Drop*, one mass of fruit. The garden is neatly arranged with walks parallel to the boundary, and with others crossing at right angles, and the whole kept clean and in good order.

Hawthorn Grove, residence of Hon. M. P. Wilder.—Since our last visit here many improvements have been made, which greatly alter the aspect of the grounds and

show them to better advantage. The circular pond in front of the greenhouse has been filled up and was now covered with trees. The boundary fence between the new nursery and the old garden has also been removed, which adds greatly to the apparent extent of the place. The walks have also been extended and their borders planted with flowers and shrubs.

The strawberries were the first objects of attention. Col. Wilder has quite a number of varieties, including all the new ones and many seedlings; among others we noticed Dr. Brincklé's Cushing, Richardson's Cambridge, Burr's New Pine, &c. But these were all wanting in some quality to render them valuable sorts; the Cushing appeared to be the best of them, but the berries are too light colored. Several of the seedlings were in bearing, but we believe there was nothing new among them. Col. Wilder has devoted much time to the cultivation of seedlings, impregnating them with the utmost care; and although he has raised hundreds of fine strawberries, better, indeed, than many that have been puffed into notice as something great, yet he has not reserved *one* which it would have given him any credit to name, knowing, as he does, that to be worth anything it should be at least as good, if not better, than any we already possess. If all amateurs and cultivators would adopt this principle, our catalogues would soon show a reduction of names.

A bed of Princess Adelaide moss roses was covered with its immense clusters of buds and blossoms, proving it to be one of the most vigorous growers and an abundant flowerer. The whole collection of roses was in bloom, but we had no time to examine them.

Residence of Col. T. H. Perkins, Brookline.—The lateness of the hour when we arrived here, prevented us from taking only a cursory view of the grounds. As usual we found them in fine order, under the excellent management of Mr. Thomas Cowan, son of Mr. Perkins's former gardener. The graperies and peach-houses were producing heavy crops of these delicious fruits, which were now about half grown, the early vineries having had their fruit already cut.

The flower garden was radiant with an abundance of showy flowers, among which we particularly noticed a fine lot of seedling verbenas. Mr. Cowan has also produced several seedling Tea roses, which were now, however, out of flower; but at another time we hope to give some account of them. The strawberries were exceedingly abundant; quite a number of kinds are under cultivation, but Mr. Cowan finds none which can compare with Hovey's Seedling and the Boston Pine,—the crops of the latter had been immense.

One of the principal objects of attraction here, at the present time, is the beautiful poultry-house of Col. Perkins. Though not exactly a horticultural structure, yet the interest we feel on the subject induces us to notice it. No expense has been spared in its construction. The frame is of wood, filled in with brick and rough plastered: what the style is it would be difficult to say; it is seventy-five feet long and eleven high, partly open to the south and divided into three compartments,—one, a room at the east end, for visitors: the opposite end is for the accommodation of turkeys and geese, and the centre is an open space where the fowls resort in rainy weather. A bell placed in one of the cupolas, of which there are three, chimes the hours of feeding, and all the birds eagerly run at this summons from their keeper.

A second excursion on the 5th of July, gave us an opportunity to visit several other places.

Residence of S. D. Bradford, Esq., West Roxbury.—Mr. Bradford's farm is very extensive, and his operations are more agricultural than horticultural. Around the house, however, the grounds are tastefully laid out and planted with a pretty collection of roses and shrubs, and the kitchen garden in the rear is kept in fine condition. Besides the general neatness and keeping of the place we found but little to bring to the notice of our readers.

Residence of A. D. Weld, Esq.—Mr. Weld's premises nearly adjoin those of Mr. Bradford, and comprise a large extent of fine land, beautifully located. The orchards are very extensive, and produce large crops of fine fruit. Near

the house some two or three acres are devoted to the growth of strawberries, raspberries and currants, of which latter fruit Mr. Weld produces abundant crops of large-sized berries of the Red and White Dutch varieties. Rhubarb and asparagus are also produced in quantities for the market.

Mr. Weld pointed out to us some cherry trees of great age, which still bore abundant crops, the bodies being of large size, with full and compact heads. Like his neighbor, Mr. Bradford, Mr. Weld's grounds come within the province of the agricultural society; and when it is known that the Norfolk Society awarded him the first premium for the best managed farm in Norfolk County, enough is said to give it the character of the **MODEL FARM**.

Residence of G. R. Russell, Esq.—It is now four years since we gave some account of the improvements which Mr. Russell has made in his beautiful place. Since that time, however, still greater changes have been made, particularly in the approach to his place; additional land in the rear of the house has been taken in, the buildings removed which obstructed the view from the main road, and the whole laid down and in part planted with trees.

The flower garden we found in the neatest order, filled to overflowing with masses of verbenas, petunias, *eschscholtzias*, &c., &c. We here noticed the *Glycene frutescens* in flower, which, though an American species, is more rare than the *Consequana*. The shrubs and trees have greatly changed their aspect, from their rapid growth, since 1846, and now formed a thicket of foliage, bordering the walks to the observatory, which overlooks the garden. One shrub in particular Mr. Russell directed our attention to; this was the double Sloe, which he said, when in flower, had the appearance of a gigantic snow-ball. The arbor vitæ hedges are finely managed, being clipped in the form of an inverted V, and dense and compact as could be desired. The grape-house was in the best order, neat and clean, and making a "show of fruit" that would satisfy the most zealous cultivator. We would refer gentlemen, who desire a model for a grape-house, to our description of Mr. Russell's in a previous volume, (XII, p. 452.)

The kitchen garden here is also a model of its kind ; it contains upwards of an acre, and has been nearly trenched throughout, the vigorous crops showing the effects of a deep and generous soil. Everything was in the finest condition, the ground free from weeds, and the whole so different from the usually neglected state of kitchen gardens, that its inspection afforded us the highest gratification.

Belmont Place, Watertown, J. P. Cushing, Esq.—This fine residence still retains its high reputation for beauty, order, neatness, and high keeping. The new and elegant mansion, so long vacant, is now occupied by the proprietor, and an air of liveliness, which they did not before possess, is now communicated to the park, the pleasure-ground and the garden. The long rows of magnificent Norway spruces and the tall masses of arbor vitæ, seem to look less sombre, now that the stillness which formerly reigned about them is broken by the foot fall, the tramp of horses and the occasional rolling of carriage wheels. The solitude which is associated with an uninhabited building of such size and grandeur, and grounds of such extent, lessens the enjoyment of their attractions. The vast expanse of park, which adds so much to the character of the old English residence, would possess only half the attraction it now does, but for the herds of deer which traverse its bounds, giving life and animation to the scene.

The garden was gay with flowers, though less so, now that the roses were nearly gone, than a week previous. The conservatory was enriched (thanks to Mr. Schimming, the gardener, and his foreman, Mr. Evers,) with a fine display of fuchsias, achimenes, gloxinias, &c. We cannot understand why it is that a greenhouse in summer should be stripped of every plant, and have the benches all brushed down as if nothing would grow, or ought to be grown, there in summer. Why, half of the beautiful plants we possess bloom only in summer. Who that had a greenhouse or conservatory would be without the magnificent Japan lilies, the rich Chinese hibiscuses, the beautiful achimenes of all hues, the lovely gloxinias, the fuchsias, begonias, and numerous

other plants. Really we believe the gardeners are at fault; for it is their duty, if their employers do not know of the beauty of these things, or do not think of them, to inform them of it, and have a supply at all times ready to keep up the appearance of the house.

The grape-houses were bearing heavy crops of the finest fruit,—large berries, large clusters and well colored,—we have rarely seen better. The peach-houses, too, were filled with fruit, all denoting care, attention and industry, on the part of the gardener.

Nurseries of Messrs. Hovey & Co., Cambridge.—The excursion ended with a hasty walk through these grounds, which we would prefer some of those who accompanied us should give an account of, rather than ourselves.

The third and last excursion was among the Essex County amateurs and cultivators.

Garden of Mr. O. Johnson, Lynn.—We gave so full an account of Mr. Johnson's premises last autumn, that there is little to add here, other than that the crop of fruit, much to the gratification of the proprietor, is this year very good, better than in the immediate vicinity of Boston. The trees did not drop their blossoms so generally, and what fruit there is, is fairer than in the places we have before noticed. It is unnecessary to add, that the "economic point" of keeping is never lost sight of by Mr. Johnson.

Garden of J. F. Allen, Salem.—The principal objects of notice here are the vineries and forcing-houses. In the early vineries the grapes were nearly all cut, and in the later ones they were only about half-grown. Among the new sorts which have fruited we noticed the Austrian Muscat, which is probably correct, although Mr. Allen obtained his vine from the same source that we had ours, which proved to be a black grape of no Muscat flavor whatever. That of Mr. Allen's is an extremely desirable sort, with clusters about the size of the White Frontignan, though not as long, of a deep amber color, approaching to a pinkish shade, and with a rich brisk musky juice.

The retarding house works exceedingly well; it was kept

covered up with boards as long as it was possible to do so, without drawing up the eyes too weak; and we should judge the crop to be more than a fortnight later than the ordinary cold house. By this plan, Mr. Allen manages to have grapes every month in the year, the retarding house holding on, with the aid of occasional heat to dry up damp, until the crop from the first forced house comes in.

Some beautiful peaches and nectarines were nearly ripe in one of the houses, and the crop was exceedingly large and fine. To lovers of forced fruit, an inspection of Mr. Allen's houses afford the highest gratification.

Garden of C. Hoffman.—We have never had the pleasure of a walk through the garden of Mr. Hoffman before. Though covering only a moderate extent of ground, less than an acre, we should think, including all the buildings, we found it filled with plants and trees. There is also a camellia house, two vineries, a stove, and a greenhouse,—in all nearly two hundred running feet of glass.

In the garden the roses struck us as particularly fine. Mr. Wilson, the gardener, certainly deserves credit for their management. They were principally trained as pyramids on trellises to the height of ten feet, and were clothed with flowers, from the bottom to the top. The sorts were mostly hybrid Chinas and hybrid Bourbons, such as Madame Plantin, Thurette, Brennus, Geo. IV, &c., &c. The plants are all protected in winter, by loosening them from the trellis, and covering them with manure, straw or litter of any kind. The whole labor of covering a hundred plants is but small, but, if ten times as much, the splendor of these specimens would amply repay it.

The camellias, owing to the occupation of the whole ground as a flower garden, are never removed from the house during the year, and looked in very good order. The house is kept shaded, and as cool as possible. They were well set with buds and promise a fine display. Some of the double whites are exceedingly large and valuable plants.

Mr. Wilson has tried some experiments in the culture of the strawberry; one of them was the growth of the Boston

Pine in hills. His success was very great. He informed us that nothing could exceed the product of the plants; the trusses were so numerous that they spread out in every direction, forming a circle of fruit around each hill fifteen or twenty inches in diameter, and literally covering the ground, the berries piled one upon another. We thought we had produced good crops ourselves, but this was something more than we had accomplished.

The vineries were producing tolerable crops, and the houses were all in good order, and the garden neat, clean and orderly in every part.

Residence of the Hon. J. S. Cabot.—Mr. Cabot not being at home, we could not see all the plants of interest which make up his admirable collection. He has spared no pains to procure all the new and fine herbaceous flowering plants, and we presume no other collection equals his in this department. The new phloxes were many of them just coming into bloom.

The fruit trees were bearing a fine crop of very promising looking fruit, but as the newer sorts, of which Mr. Cabot has a great quantity, are planted on a piece of land out of the city, which we had not time to visit, we cannot now give any account of them. The garden was in the very best order.

Residence of J. D. Bates, Esq., Phillips's Beach, July 31.—No one can be insensible to the great improvements which have been made in the seaside residences which have so rapidly sprung up near Boston within the last few years. The story has been so often repeated, that it has become a settled fact with some, that nothing will grow on the exposed and windy places along the shores of the harbor and bay. Even at Nahant, once covered with trees, beautiful cottages have long stood and still stand, without a tree or shrub near them, exposed to the glaring sun, and, but for the cooling breezes from the ocean, wholly insupportable as summer residences to any one who is not willing to forego every thing simply for the sea air. But Mr. Tudor commenced the work, ridiculed though he was; and now that it is found

trees will grow, others are following his good example ; and with a liberal outlay of money, and little attention in planting, this sea-girt isle might in a few years be clothed with verdure.

Mr. Bates has selected a beautiful location for his residence, bordering immediately upon the bold and rocky shore, commanding a full view of the harbor, with Nahant in the foreground and Cohasset in the distance. The extent of the grounds is some fifteen or twenty acres, five or six of which comprise the ornamental portion around the house, about an acre as a kitchen garden, and the remainder unimproved, only so far as to be laid out with walks, without changing the wild and picturesque character of the place. It is the improvements that have been made in planting ornamental trees that we wish more particularly to notice.

Mr. Bates commenced with planting the *Abele*, for its rapid growth, but this he soon abandoned and planted the Silver maple ; these were far more beautiful, grew finely and resisted the winds ; next he tried the Norway maple ; these too are admirably adapted to bleak situations, their foliage being thick and dense, and the trees of rapid growth. Only six years have elapsed since Mr. Bates commenced planting, and now the trees form a thick and dense boundary of foliage.

In the rear of the house, in a somewhat sheltered place, about quarter of an acre is planted with fruit trees, and already several dwarfs upon the quince were loaded with fruit.

The kitchen garden we should particularly notice. The soil is light and thin, and in order to have a good garden the whole ground was trenched two feet deep ; the result has been that no better success could be desired on the very richest soil. Already we found a trellis covered with tomatoes nearly ripe. Okra sown in the open ground, now two feet high, and will produce plentifully its pods, which make such a rich dish. All the ordinary vegetables were in fine condition, and not a weed to be seen. Though less in extent, it reminded us of Mr. Russell's, which we have previously noticed.

We have remarked that a portion of the grounds remain in their natural state, with no alteration save the walks which have been cut through, and the planting of a lot of Scotch firs; of these we noticed quite a number, perhaps two feet high, and doing well. Mr. Bates informed us he set them out a year ago, merely cutting a hole with the spade, lifting the sod, putting in the plant, and replacing the earth just as before setting out. In a few years these will get up five or six feet, and will then entirely change the appearance of the grounds. The Scotch fir is a fine tree, perfectly hardy, and will flourish in the bleakest situation.

Other improvements are in contemplation. The approach to the house is to be lengthened and more land added on each side so as to give greater extent. When these are completed it will be one of the finest seaside residences in the neighborhood.

MISCELLANEOUS INTELLIGENCE.

ART. I. *General Notices.*

BOTANICAL NOMENCLATURE.—When we drew attention, a few weeks since, to the state of botanical nomenclature, we suggested that our readers should favor us with their opinions upon the propriety of making some changes in it. We did so, not from entertaining the least doubt as to what the right course is, but for the sake of eliciting such expressions of opinion as would put us in possession of the views of those who are alone interested in the question. So far as mere technical science is concerned, the language of botany is good enough, for botanists understand it. The real question at issue is, whether it is adapted to familiar use? and, if not, whether it cannot be so adapted without any violent interference with usage or scientific convenience? Very few men are or can be professed botanists; multitudes wish for such an acquaintance with botany as an important and highly interesting branch of science demands of the well informed; and there is a very large class of persons whose pursuits compel them to talk in the language peculiar to it. But this language is entirely foreign to English ears and English taste—uncouth, inelegant, and even barbarous. To remedy this, and to place it in such a condition that it may be an object of attraction to the educated multitude, as well as to a few studious philosophers, has for many years been the aim of ourselves and others. Nor has our motive been even limited thus narrowly; on the contrary, we believe that it and

and other branches of natural history may be made a valuable part of a villager's education ; but, if that is to happen, natural history must wear an English dress. If it be of no importance to any one beyond the unlearned that plants should have English names, it is to THEM ; and for them, at least, the battle is worth fighting.

Some perception of this necessity has evidently been felt, though unconsciously, even by those among whom are to be found the most uncompromising opponents of an English terminology. *Dicotyledones*, *Exogenæ*, *Cryptogamæ*, have already settled down as Dicotyledons, Exogens and Cryptogams, just as *Mollusca*, *Pachydermata* and *Mammalia*, have become Mollusks, Pachyderms, and Mammals. Men now talk of Conifers instead of *Conifera*, and of Orchids instead of *Orchidacea* or *Orchideæ*. It is clear, therefore, that the current of opinion is setting steadily in a better direction ; and there is no reason why it should move so slowly.

The view of this question taken by "Nomenclator," p. 421, will probably prove to be the most generally acceptable. In the main he agrees with ourselves, but he pushes his fear of translated names much further. Conceding, as we fully do, that to translate into English the technical names of genera is upon the whole inexpedient as a rule, and to be avoided where possible, we cannot admit that the objection to it rests upon any other ground than that of inconvenience. English compound names are as fit for scientific purposes as Greek and Latin ones ; but they cannot form part of that universal language which the convenience of science requires ; and therefore they are inadmissible when foreigners have to be communicated with ; and moreover, as we have already stated, they entail upon men of science the necessity of remembering two names instead of one, which is inconvenient when some hundred thousand such names have to be recollected. These are weighty reasons, and we admit their force ; but we recognize no other reason. "Nomenclator's" translation of MOTH-FACE is surely as agreeable a name as *Phalaenopsis*, although MOTH-ORCHIS would have been before ; and we see little force in Mr. Owen's objections, if resting upon no better ground than a bungling mis-translation of *Dendrobus* into SHRUB-TOOTH. We may laugh at the absurdity, just as we should at translating *Oncidium cæcum* into BLIND HOOKEY, as a facetious friend suggests ; but such follies can form no part of a serious argument. We repeat, then, that we give up the translation of scientific proper names, because of the inconvenience, and for no other reason.

That is, however, no reason why we should not employ pure English names wherever we can without incurring that inconvenience ; and we decline to acknowledge the propriety of calling a *Quercus* or a *Fagus* by any other name than those of Oak and Beech. *Bellis* must be Daisy, *Delphinium* Larkspur, *Aconitum* Monkshood, *Ranunculus* Crowfoot, *Juglans* Walnut, *Carya* Hickory, and *Taraxacum* Dandelion, as long as the English tongue endures ; and foreigners must learn the meaning of such words just as they learn the meaning of other words. It is quite as reasonable for us to say to a foreigner, "you, for our convenience, must learn that Willow is the English for *Salix*," as for him to say that we must know *Salix* to be the

Latin of Willow for *his* convenience. And since Prof. Owen's authority has been introduced into the question, we must add that we claim him for a good witness on our own side. Let any one turn over the pages of his beautiful work on fossil reptiles, and see how sedulously he shuns the hard words of technical science wherever he can. He talks of the Gavial, the African constrictor, tiger-boas, sea-snake and common snake, and not of *Gavialis*, *Dixonii*, *Python regius*, *Python tigris*, *Hydrophis bicolor*, or *Coluber natrix*. Every one must, we think, desire that he had carried this further—substituting snakestone for ophiolite, and so on.

We remark that one of our correspondents is alarmed lest his *Crocuses* should degenerate into *Crokes*, and therefore he would compel people to go on for ever breaking their teeth against the angles of our Græco-Latin compounds. But his fears are groundless; *Crocus* is a name not likely to be disturbed; and if it were, the change would not be more disastrous than that of *Hyacinthuses* into *Hyacinths*. In spite, therefore, of this warning, we venture to recommend that on all possible occasions, the technical proper names of science be adapted to our own tongue, where familiar names do not exist. It will be found an important means of diffusing a taste for natural history, and need not shock the sensibilities of the most tight-laced stickler for scientific formalism. *Calycanths* are as good as *Calycanthuses*, *Hyacinths* as *Hyacinthuses*, *Perymenes* as *Perymentiums*, and *Glossocards* as *Glossocardias*.

But while we recommend the abandonment of translations of technical proper names, we must insist upon what is the greatest point of all, the translation, wherever possible, of the adjectives used in the binomial system, and of all adjective terms whatsoever for which English equivalents can be found. This is, however, opening a new and perfectly distinct question, for which we must crave a second hearing.—(*Gard. Chron.*, 1850, p. 467.)

ON THE DIFFERENCE BETWEEN GERANIUMS AND PELARGONIUMS.—The most beautiful of flowers is, by common consent, the rose; one of the next is, perhaps, the pelargonium. The rose has the advantage of all others in possessing a sweet scent; but in the beauty of color it shares with many, for the various shades of red are all more or less beautiful, and not merely because they are good contrasts to green, for in that case they would not be beautiful alone, which they decidedly are. Now beauty of color, like that of form, is of two kinds,—that which is primitive or intrinsic, and that which is secondary or representative. The beauty of pink and rose-color, or light red, is in most flowers, and in many other cases, only secondary or imitative, because it represents what in fruit is indicative of perfection and ripeness, qualities which are esteemed useful or afford wholesome gratification. The same color is esteemed beautiful when it graces the object of man's highest admiration; for then it is a mark of health and pleasure, especially when not heightened beyond what the poet calls the "bloom of young desire, the purple light of love." It is, therefore, the associations that attend the appearance of this color in flowers to which their beauty is to be attributed, as, in poetry, that language is the most admired which expresses itself with the most apt allusions. Many varieties of pelargoniums possess various

shades of pink and rose color, hence their preëminent beauty; and it is among these beautiful varieties that I have chiefly observed a peculiar circumstance, which I thought sufficiently remarkable to be described to the members of this society, and their friends, especially as it will give me an opportunity of explaining to some amongst you, who may not have forgotten the old name *Geranium*, why that name is no longer used for florists' flowers. Indeed, it will be necessary to refer to the distinguishing marks of the *geranium* and *pelargonium* to render the value of my observations obvious. The old genus *Geranium* is now considered a natural order, and the peculiar form of the fruit is its most remarkable character, being elongated like a crane's beak. This natural order is divided into five genera; one of these genera, called *Rhynchotheca*, has no petals, and is therefore easily known; it contains only two species. Another is called *Monsonia*; this has fifteen stamens, mostly divided into five clusters, and petals with jagged edges; otherwise much resembling the true *geranium*. The other three genera are distinguished partly by their mode of growth; two of them, *Erodium* and *Geranium*, consisting of soft herbaceous plants, examples of them are found chiefly among the wild European and English weeds: and the third is a group of stronger shrubby plants, having woody perennial stems; these are natives of Africa only, and mostly of the southern parts, near the Cape of Good Hope, and are now called *Pelargoniums*. The great resemblance of the three genera to each other is pointed out by their Latin names, thus:—*Eronium*, from *ερονιος*, a heron; *Geranium*, in Greek *Γερανιον*, from *γερανος*, a crane; and *Pelargonium*, from *πελαργος*, a stork; because, as I before observed, the fruit resembles the beaks and heads of those birds. The distinction between *geranium* and *pelargonium* is a strictly natural one, and what every gardener will admit. He has been, therefore, ready enough to adopt a new name; and without burthening his memory to distinguish between a crane's bill, a stork's bill, or a heron's bill, he satisfies himself with the Latin name *pelargonium*, which he applies at once to his favorite plants. But as the mode of growth is very variable, botanists have endeavored to point out some fixed character by which the genus may be determined,—a character to be taken from the flower or fruit. And in the case of *pelargonium* they seemed to be eminently successful, for in *pelargonium*, with its shrubby mode of growth and truss of flowers, was found a peculiar form of flower, with two large upper petals and three smaller petals below, the stamens all turned downwards, and only seven of them perfect; and besides this, a tubular nectary, commencing at the base of the upper stamens, and continued down and attached to the flower-stalk, and ending in a rounded swelling, which is easily seen in the flowers before you. I should observe also that the two upper petals are generally marked with a deep-colored spot. On the other hand, both the *erodium* and *geranium* have equal petals, five or ten perfect stamens, and no nectary or honey-tube penetrating the flower-stock. Thus *pelargonium* appears to be a good or well-defined artificial, as well as natural, genus or group. But the gardener, when he finds, as in this case, nothing but external beauty to recommend a plant, endeavors by selecting what he considers the most

perfect, and then cultivating it highly, to increase in the succeeding produce both the beauty of color and of form; and as the beauty of form depends upon the same elements as that of color,—that is, upon the perfect adaptation to the end, or the resemblance to that adaptation,—so the full round form is especially aimed at by the cultivator of flowers; and the pelargonium fancier endeavors to obtain five broad and equal petals to form a round flower, and the upper two, deeply and brilliantly colored as a contrast to the three lower and light colored ones; but with all his care, the flowers are not constant, and now and then one will play the truant, or sport, as he calls it; and this commonly takes place amongst the most petted or highest cultivated varieties, where the color seems to defy control and becomes vagrant, especially in the upper petals, from which it sometimes absolutely departs altogether, as in some of the flowers before you.—(*Gard. Jour.*, 1850, p. 467.)

ROSES AND PELARGONIUMS WHICH OBTAINED THE PRIZES at the last exhibition of the London Horticultural Society in July.—Roses (cut) were shown in abundance, and though their freshness and beauty were much impaired by the heat of the day, they formed an attractive portion of the exhibition. Prizes were awarded for 50 varieties to Messrs. Lane, Paul, Francis, Spriggins, and Foster; and for 25 varieties to A. Rowland, Esq., of Lewisham: Mr. Slowe, gr. to W. R. Baker, Esq.; Mr. Tivey, gr. to T. Wigelin, Esq.; and Mr. Ayre, gr. to A. Currie, Esq. An exhibition from Mr. Terry, gr. to Lady Puller, of Youngsbury, Herts, was disqualified, on account of its containing the same rose under two different names. Among Messrs. Lane's varieties we remarked excellent blooms of the following—*Gallica*: Ohl, shaded lake; Phæreicus, large crimson. *Alba*: Madame Audiot, creamy white, blushy centre. *Hybrid Provins*: General Jacqueminot, large shaded lake. *Hybrid Bourbon*: Chênédollé, brilliant crimson; Comtesse Molé, delicate rosy pink; Coupe d'Hebe, and Paul Ricant. *Damask*: Madame Zoutman, creamy white. *Hybrid Perpetual*: Armandine, pink; Chateaubriand, large delicate pink; Comte de Montalivet, rosy crimson; Duchesse de Galliera, shaded pink; Duchesse de Praslin, blush, with pink centre; Duchess of Sutherland, Madame Trudeaux, carmine; Sidonie, large pink; and the brilliant Standard of Marengo. Among Bourbons, the most conspicuous was the well known rose, Dupetit Thouars. The same nurserymen had also beautiful exhibitions of Géant des Batailles, the most brilliant of all roses, Queen and Baronne Prevost; and Messrs. Curtis & Co., of Bristol, sent charming boxes of Devoniensis and Géant des Batailles. The best 12 roses exhibited by Messrs. Paul were—*Damask*: Madame Hardy. *Alba*: Felicité Parmentier. *Hybrid Perpetual*: Julie de Krudner, Duchess of Sutherland, Baronne Prevost, La Reine, Sidonie, Pius IX., Gen. Negrier, and Duchesse de Montpensier. *Hybrid China*: Gen. Jacqueminot and Lamoriciere.

Pelargoniums were much finer than they are usually seen in July. Messrs. Staines' and Parker's plants were in first-rate condition, and covered with large fresh flowers. The fancies were not so gay as we have seen them earlier in the season. Plants in 11-inch pots. Mr. Parker had Ro-

setta, Pearl, Emperor, Louisa, Rosy Circle and Armada. Mr. Stains, Armada, Centurion, Lamartine, Armada superb, Gulielma and Pearl. Nurserymen: Mr. Gaines sent Meleager, Negress, Chieftain, Lord Warden, Oriflame and Rosy Circle. Six plants in 8-inch pots: Mr. Stains produced Constance, Brilliant (Topping,) Narcissus, Ariel, Conspicuum and Pearl. Mr. Cock, Centurion, Sundown, Star, Meleager, Ondine, and Sikh. Mr. Robinson, Mars, Cassandra, Senata, Paragon, Ariel, Rowena. Nurserymen: Mr. Beck had Governor, Painter, Cuyp, Vanguard, Loveliness and Star. Mr. Bragg, Ondine, Conspicuum, Alderman, Azure, Voltigeur and Countess of Sefton. Mr. Gaines, Aspasia, Star, Mars, Flying Dutchman, Excelsa and Marchioness of Stafford.

Fancy Pelargoniums.—Mr. Stains sent Hero of Surrey, Reine des Français, Magnifica, Queen Superb, Bouquet tout fait and Fairy Queen. Mr. Gaines, Wintonia, Orestes, Fairy Queen, Reine des Français, Alboni and Hero of Surrey. Mr. Ambrose, Juno, Pilot, Enchantress, Magnet, Standard, and Pride of Surrey.—(*Gard. Chron.*, 1850, p. 455.)

THE ROUND-LEAVED BELL-FLOWER OR HARE-BELL.—*Campanula rotundifolia*.—This is one of the most truly elegant, and one of the most universally admired of British plants. In some part of England the name harebell is appropriated to the wild hyacinth or blue-bell, but the present plant seems to have the best claim to it from general practice and poetical authority:—

"E'en the slight harebell raised its head,
Elastic from her airy tread."

We must not, however, expect vernacular names to have any precision or certainty of application. The name *campanula* signifies a little bell, and expresses the characteristic form of the flowers of this genus. It is produced by the coherence of the five petals, of which the corolla really consists. The union is so complete that the flower appears to be only cut or lobed in the border, more or less deeply in different species.—(*Gard. Jour.*, 1850, p. 468.)

ART. II. Domestic Notices.

AMERICAN POMOLOGICAL CONGRESS.—*Meeting postponed to the 2d, 3d and 4th days of October.*—The next session of this National Institution, which was to have been held in September, is hereby postponed to the 2d, 3d, and 4th days of October next. The Ohio State Board of Agriculture have also postponed the State fair to the same time. In conformity, therefore, with the resolutions instructing the president of this association to act in concert with that board, this notice is given to countermand the circular issued for the meeting in September. The reasons assigned for this change are, that the apprehensions in relation to cholera and similar diseases may continue to exist until after the time heretofore appointed for the meeting of these institutions.—M. P. WILDER, President. *Boston, August 22, 1850.*

We are glad to learn of this postponement for two reasons: it will enable more eastern pomologists to visit Cincinnati, as they could not leave in September, on account of the annual exhibition of the Massachusetts Horticul-

tural Society, on the 17th, 18th and 19th; and it will also enable them to take with them, if they go, or, if not, to send, specimens of the same fruits which were gathered for exhibition at home, and which, so early as they would have had to have been forwarded to reach Cincinnati on the 11th, the time first set, would not have been half grown. We strongly urged our western friends, last autumn, to put off the exhibition until after the eastern shows were all over.—*Ed.*

MUSKINGUM COUNTY HORTICULTURAL SOCIETY, OHIO.—Mr. Cox, the Secretary of this Society, has sent us the following report of the exhibition of strawberries and other fruits, held June 12th, at Zanesville:—

Rev. C. Springer, of Springfield, presented a basket of apples, called Springer's Seedling, preserved in barrels, in the ordinary mode. They were in a very fine state of preservation, retaining both their firmness and flavor in an unusual degree. It would be proper to say the same variety of apples were exhibited at the fall show of 1849, of the previous year's growth; their flavor was then somewhat injured, but their firmness well preserved.

Mr. Barnard, of Falls, presented several baskets of strawberries, embracing the following varieties:—Hovey's Seedling, Ohio Mammoth, Burr's New Pine, Burr's Old Seedling, Hudson, Duke of Kent, Scarlet, Iowa, Chilian Scarlet, Large Early Scarlet, and also a seedling of much merit, which was rather small in size, but the "tasting committee" pronounced the flavor superior to any of the other varieties presented. It was in flavor much like Hovey's Seedling, but rather sweeter. Hovey's Seedling, for size and flavor combined, was considered the best exhibited, one of which measured full four inches in circumference. One of the Ohio Mammoth measured three and three fourth inches in circumference. The Hudson and Early Scarlet were undoubtedly the same variety.

Mr. E. T. Cox, of Springfield, also presented baskets of Burr's New Pine, and Ohio Mammoth, of very fine size and quality.—JAS. L. COX, Secretary, June 12th, 1850.

BUFFALO HORTICULTURAL SOCIETY.—The Report of the July Exhibition has reached us, but as it would occupy several pages we can only give a brief notice of it. The exhibition of flowers was large, both of pot plants and cut flowers, and the premiums were as follows:—

Best display of plants in pots, J. Westphal, diploma.

Finest and best geraniums, E. Tyler.

Best and finest varieties of garden roses, B. Hodge, diploma.

Second best variety of garden roses, Mrs. Lewis Eaton, \$1.

Best Fuchsia Stanwelliana, E. Tyler, \$1.

Best calceolarias, J. Westphal, \$1.

Discretionary premiums for splendid seedling calceolarias, J. Westphal, \$1.

Best pansies, J. Westphal, \$1.

Best and finest varieties of flowers, Mrs. Lewis Eaton, diploma.

Best bouquet, Miss Eliza Cogswell, \$1.

Best floral design, Miss Lucy Bryant, diploma.

Best verberna, E. Tyler, \$1.

Best cut flowers at this exhibition, L. F. Allen.

The show of strawberries must have been excellent, as there were more than twenty exhibitors, and at least twenty varieties shown. The first premium was awarded to Mr. C. Taintor, but the report does not state for what kind. The president, Mr. Eaton, exhibited fine specimens of the Bigarreau de Lyon cherry, which the committee pronounce "a very large, fine, beautiful and early variety."—(*Report*.)

CROPS IN THE WEST,—INSECTS AND BENEFITS OF MULCHING.—In a letter to the Massachusetts Horticultural Society, by Dr. J. A. Kinnicott, of the Grove, Illinois:—

Dr. Wight, Corresponding Secretary, Dear Sir,—When I last wrote, we were, I think, in the commencement of an uncommon drought, for this region, as our springs are usually wet. We have suffered, however, much less than was feared. The small grains have come on finely since the late and abundant rains. Indeed, I saw two fields of spring wheat last evening, that had made growth enough to "lodge" before a heavy thunder's gust. Wheat and oats now bid fair for a good crop. Corn came up very uneven, or not all, until well into this month. Some that was planted very early in May came up at once, but generally there was not moisture enough to cause the seed to germinate, and it lay in the soil, dry and safe, for near a month, and then came up with tolerable regularity. This crop *now* looks decidedly well about here. Potatoes are fine, but garden plants, such as parsnips, onions, &c., from seed, have almost entirely failed. The same may be said of annual flower-seeds, few or none came up, or survived the frosts and drought of April and May, when they came early.

Tulips and hyacinths flowered badly, early pæonies, &c., as poorly. Pæonies, Humei, albicans, &c., of the late blooming sorts, were loaded with perfect but rather small flowers. The whole race of roses are blooming deliciously. We have, I believe, about three hundred *names* of hardy roses, (doubt if we have more than half as many sorts, *essentially differing*;) and these are, or have been, literally loaded with buds and flowers, though I think that many more than the usual quantity or proportions of buds have proved defective or abortive; and the insects have been unusually destructive this season, especially the worms that feed on the bud and unexpanded leaf; of these, there are three or four sorts, very abundant. I know not their names though I do their habits,—one of these, usually called the "measuring worm" or "striding caterpillar," has also played the mischief with the young wood of fruit trees. I have shaken over a dozen from a nursery tree; never two on the same twig. They are huge feeders, and not at all timid.

Our show of fruit is rather fair than otherwise, when the severity of our winters and our singular spring, are considered. I believe I told you that the mercury fell to 18° or 20° below zero in December and January. This, I knew then, must kill all the peach buds; but I thought this degree of cold could not affect other fruits, after so dry and late an autumn, which ripened the wood most perfectly. In this I was mistaken. As soon as the sap

started, this spring, I discovered that the black spot was in the heart of the cherry and the plum, the same as the peach, though not universal. A very few buds developed flowers, and now and then may be seen a cherry, and on some seedling sorts of "Damsons," quite a show of plums,—all marked by the curtullio though. Did not know there were any plums until too late to try the lime remedy.

On perhaps a quarter of my apple and pear trees there is a great quantity of fruit. On a few trees occasional specimens, but on most trees there were no flowers and consequently no fruit; but on every tree where I saw flowers, (except nursery trees,) I now find fruit. Indeed I never knew apples and pears "set" better. But I cannot account for the irregularity of bearing,—as, in some cases, trees of the same age and the same variety, standing side by side, the one will be loaded and the other barren,—where both either bore or were alike unfruitful last year. My White Doyenné (St. Michael) is loaded with fruit. My quinces flowered very full, but the ends of the shoots, (generally from two to eight inches) are dying or dead. We cut off the blackened ends yesterday. It looks like the work of an insect. My German gardener says, "too much manure." New wood is starting below the disease.

Our losses in the nursery have been great; in our spring planting, especially of evergreens.

We have this season proved the efficacy and even necessity of *mulching* trees newly planted. One lot of fine yearling pear seedlings, from Geneva, N. Y., came in apparently bad order, quite dry. We covered them lightly (after watering them) in mellow earth, and, after a day or two, planted and covered the whole surface three or four inches deep, with hay, that had been threshed for the seed. Of these, we have not lost .10 per cent., while of some not mulched we have lost .75; though most of these last had leaf blight last year, and yet they were planted much earlier and with greater care, and appeared safer when planted than the mulched ones.

In a few days, I hope to start on a tour of observation through a portion of our country, and I shall doubtless see many things worth communicating next month.—*Until then, farewell. Your friend, JOHN A. KINNICOTT, of the Grove, Illinois. To Dr. E. Wight, Secretary Mass. Hort. Soc.*

BOSTON PINE STRAWBERRY.—The Boston Pine has fruited with me for the first time this season, and thus far it fully sustains the high character it has acquired with you.—*Respectfully, yrs., J. BATTEY, Keeseville, N. Y., July, 1850.*

NEW PLANTS FROM CALIFORNIA.—Our old correspondent, W. R. Prince, of Flushing, who has now been a resident of California more than a year, has sent us an interesting communication on the prospects and condition of California, which having more reference to the mining operations now going on, than to agricultural or horticultural matters, we have only room for the concluding portion, in which he gives some account of the botanical riches of the country, and the acquisitions he has made:—

I will now leave this branch of California wonderments, and I had intended to comprise in this communication some account of the agricultural

claims which this country presents and which have been most egregiously overrated; and also an account of the majestic evergreen and deciduous trees, and of the unique and beautiful shrubbery, and the lovely bulbous and other flowers with which the mountains and valleys are carpeted, but I must defer them for an after occasion. I will simply remark, that I have transmitted to the nurseries at Flushing, during the last autumn and winter, the seeds of above one hundred and fifty species of trees, shrubs and plants, entirely new to myself, and the most of them as yet unknown to the botanic world. Among these were nearly one thousand bulbous roots, of numerous species, collected in the mountain regions of the Sierra. I am taking every means of obtaining additional species from all sections of the country, and in the autumn I shall set out on my return to Long Island via Mexico, bringing these collections with me, and I also shall bring with me what will not be equally gratifying to the botanist, but may be measurably so to other scientific men,—specimens of gold from all the various mining districts, from the quartz boulder down to the fragments, the coarse grained, the scaly, and to the almost impalpable dust. I have already sent home some beautiful specimens, but I shall take, among others, one weighing about ten pounds, which is about half the size of the largest that has been found in the region of the Sacramento, and which I intend as a present for a much esteemed friend.—*Yours, very respectfully, Wm. R. PRINCE, Sacramento, May 28, 1850.*

THE CHERRY TREE BORER.—Dear Sir: I wish to inquire of you respecting the borer which works in the cherry. He is evidently a small chap, for only a small wire can be forced into his hole. He works in trees from an inch to six inches in diameter, and from a foot to four or five feet from the ground. I have never been able to find him; for he is much like the *good man* in Scripture, "known by his fruits," (or rather his *borings*!)—*Yours, truly, J., Worcester, July 11, 1850.*

GRAFTING FIR-TREES, THE SHELLBARK, &c.—I wish to inquire about grafting fir-trees upon spruce or hemlock; also about grafting the common hickory with shell-bark; also, whether the *Madeira* nut-tree can be had at the nurseries of Hovey & Co. or where it may be obtained?—*Truly, yours, GEORGE JAKES, July, 1850.*

[We presume the fir may be grafted on the spruce or hemlock without much trouble, although we have not tried the experiment. Loudon, in his *Arboretum*, describes a mode of herbaceous grafting which is practised successfully on all the pine and fir tribe. The shell-bark may be grafted on the hickory. The *Madeira* or Spanish nut may be obtained of Hovey Co., and, we presume, of any respectable nurseryman.—*Ed.*]

STRIPPING THE BARK FROM CHERRY TREES TO PREVENT THEIR BEING BARK BOUND.—From several experiments of my own and others, I find that the cherry may be stripped of its outer bark with *perfect* safety, and that the operation is of *great* service in enabling the tree to pass through the crisis from smooth bark to rough bark. When once this crisis is passed, the tree appears less liable to injury from frost or heat than before.—*Yours, J., Worcester, July, 1850.*

ART. III. *Albany and Rensselaer Horticultural Society.*

In accordance with the established programme of meetings for 1850, the Society met at the Agricultural Hall on Wednesday, the 10th of July, Dr. Herman Wendell, one of its Vice Presidents, in the chair. The hall was thronged during the day and evening by ladies and gentlemen from the city and its vicinity.

The following gentlemen were chosen delegates to represent the Society in the American Pomological Congress, the next session of which is to convene in Cincinnati in September next, viz :—

From the county of Albany, Joel Rathbone, Dr. Herman Wendell, B. P. Johnson, Ezra P. Prentice, James Wilson, Sanford Howard and E. H. St. John. From the county of Rensselaer, V. P. Douw, D. Thomas Vail, B. B. Kirtlandt, S. E. Warren, Amos Briggs, William Newcomb and William Buswell.

FRUITS.—The display was quite extensive and interesting, though the number of varieties of cherries exhibited was much less than in former years, owing to the unpropitious season for that delicate fruit.

The award of premiums was as follows :

CHERRIES.—For the best and most extensive collection, to Henry Vail, \$3.

For the second best and most extensive collection, to Dr. H. Wendell, \$2.

For the best two varieties, to Alden March, for Tradescants Blackheart and Black Tartarian, \$2.

For the best one variety, to E. C. Aikin, for Black Tartarians, \$1.

GOOSEBERRIES.—For the best and most extensive collection, to James Wilson, \$3.

For the best and finest flavored variety, to Henry Vail, for Compton's Sheba Queen, \$2.

For the second best and finest flavored variety, to Henry Vail, for Lady of the Manor.

RASPBERRIES.—For the best and most extensive collection, to H. Vail, \$3.

For the best and finest flavored variety, to Henry Vail, for Fastolffs, \$2.

For the second best and finest flavored variety, to John S. Gould, for New Red Antwerp, \$1.

CURRENTS.—For the best and most extensive collection, to H. Vail, \$3.

For the best and finest flavored variety, to James Wilson, for Knight's Sweet Red, \$2.

For the second best and finest variety, to H. Vail, for White Dutch, \$1.

A special premium of \$1 to John S. Walsh, for a beautiful display of five varieties of mulberries.

FLORAL DESIGNS, BOUQUETS, &c.—The committee reported that there was exhibited by Mr. James Wilson, one large round bouquet, for centre table vase, beautifully arranged with choice roses, fuchsias, spireas, &c., &c., for which they have awarded the premium of \$2; one flat hand bouquet, and one round hand bouquet, both exquisitely arranged, composed of choice and delicate flowers, as euphorbias, hoyas, stephanotus, rose buds, &c., &c., for each of which they have awarded a premium of \$1.

By Wm. Newcomb, a large flat bouquet for mantle vase, for which they have awarded the premium of \$2; also, a beautifully arranged round bouquet.

By N. Tillman, from Dr. Wendell's garden, a beautifully arranged basket bouquet with handle, &c., premium of \$1.

By E. Corning, Jr., a pyramidal floral design, arranged with skill and taste, for which they have awarded a discretionary premium of \$1.

GREENHOUSE PLANTS.—The exhibitors were D. T. Vail, J. Wilson, Miss Wagner, Miss Eights and Mrs. J. Gould.

The premium of \$2 for the best six varieties of fuchsias they have awarded to D. Thomas Vail, for the varieties indicated in his list above.

That of \$1, for the best three varieties, they have awarded to James Wilson, for Beauty Supreme, Carolina and Delicata.

FLOWERS.—The principal exhibitors were D. T. Vail, V. P. Douw, J. Wilson, Dr. Wendell, E. C. MacIntosh, W. Newcomb, and J. Duguile.

PREMIUMS.

DAHLIAS.—For the best exhibition, to D. Thomas Vail, of Troy, \$3.

For the best twelve varieties, to D. Thomas Vail, for Star, Lady of the Lake, Felix, Rainbow, Sunbeam, Beauty of Sussex, Queen of the French, Rosetta, Cleopatra, Queen of England, Caractacus, and Master George Clayton, \$2.

On carnations there was no competition. For picotees, the premium of \$1 is awarded to James Wilson for the best three varieties exhibited.

For the best display of annual and perennial flowers, the premium of \$2 is awarded to William Newcomb, of Pittstown.

VEGETABLES.—The committee on vegetables report the following premiums:—

E. C. McIntosh, for tomatoes, \$1.

E. Corning, Jr., for best exhibition, \$1.

ART. IV. *Massachusetts Horticultural Society.*

Saturday, August 3, 1850. An adjourned meeting of the Society was held to-day,—the President in the chair.

Voted, That the Society meet in future at 12 instead of 11 o'clock.

Voted, That the gentlemen nominated as delegates to the Pomological Convention in Cincinnati be appointed by the Society, and that they have power to add to their number and to fill vacancies. The following are the names of the delegates:—S. Walker, M. P. Wilder, B. V. French, A. D. Weld, J. H. Billings, W. B. Kingsbury, Joseph Breck, J. S. Sleeper, Eben Wight, D. Leach, W. R. Austin, C. M. Hovey.

A communication was received from F. R. Elliot, Cleveland, with a donation of seedling cherry buds, which were placed at the disposal of the President.

The thanks of the Society were voted to Mr. Elliot, and the Corresponding Secretary directed to communicate the same.

A communication was also received from W. P. Allen, Oswego, asking for the *Transactions* of the Society, and the Corresponding Secretary was directed to award it.

Dr. Wendell presented the Journal of the New York State Agricultural Society.

Adjourned two weeks, to August 17, at 12 o'clock.

Exhibited.—**FLOWERS:** From Breck & Co., Hovey & Co., Winship & Co., P. Barnes, J. Nugent, L. Davenport, J. Hovey, Miss Russell, H. Grundell, W. Kenrick, W. E. Carter and others, a variety of cut flowers, bouquets, &c.

GRATUITIES AWARDED.

To P. Barnes, for cut flowers, \$2.

To Breck & Co., for the same, \$2.

To Winship & Co., Hovey & Co., J. Nugent, L. Davenport, Miss Russell, J. Hovey and W. E. Carter, for cut flowers, \$1 each.

FRUITS.—From J. F. Allen, very fine Belle-garde (alias Violet Hative) peaches; Late Newington nectarines, fine; Bishop, Portieu Noir, Whortley Hall Seedling, and White Hamburg grapes, all late and desirable for their keeping qualities; also Franconia raspberries and blackberries. From O. Johnson, very fine Red and White Dutch currants, and Black St. Michael's figs. From Geo. Darracott, five varieties of grapes. From Jos. Stickney, fine Madeleine pears. From I. Fay, Madeleine pears.

From Hovey & Co., Doyenné d'Été and Madeleine pears; Murray nectarines; Early Crawford peaches; and Wilmot's Black Hamburg No. 16, and other grapes. From C. Stearns, Jr., Red Dutch currants. From J. H. Blake, Red Astrachan apples. From E. M. Richards, Red Astrachan, Early Harvest and Williams apples. From F. Dana, Garretson's Early and Sopsavine apples, and Madeleine pears. From A. D. Weld, Red and White Dutch currants, and Franconia raspberries. From J. Nugent, grapes. From C. E. Grant, blackberries. From Geo. Wilson, very fine Red and White Dutch currants. From B. V. French, Heath's Early Non-such apples. From J. Hovey, fine Whitesmith gooseberries. From C. Barnes, three sorts of gooseberries. From J. A. Kenrick, Belle Magnifique cherries and Black Mulberries. From F. King, superior blackberries.

[**VEGETABLES.** *July 13.*—From J. Nugent, String beans. From E. Burns, String beans and cucumbers, open culture. From Hovey & Co., a brace of Walker's Prize cucumbers.

July 20. From E. Burns, potatoes and cucumbers. Mr. Josiah Crosby, cucumbers, beets and carrots.

July 27.—From A. D. Williams, early potatoes. From E. Burns, potatoes. From A. Carter, potatoes. These were omitted in the regular order of our report.]

August 10. *Exhibited.*—**FLOWERS:** From H. Grundel, fine cut flowers of *Erica mammosa rubra*, vestita, regérminans and seedling Japan lilies. From Hovey and Co., fine balsams and phloxes. From T. Needham, fine balsams and other flowers. From J. Nugent, fine balsams and other flowers. Cut flowers were also sent sent by the President, Breck & Co., L.

Davenport, Winship & Co., P. Barnes, W. E. Carter, W. Kenrick, A. Bowditch, J. Hovey and others.

PREMIUMS AND GRATUITIES AWARDED.

BALSAMS.—For the best display, to T. Needham, \$3.

For the second best, to J. Nugent, \$2.

For the third best, to Hovey & Co., \$1.

To J. Nugent, Hovey & Co., L. Davenport, Winship & Co., Breck & Co., A. Bowditch, P. Barnes and J. Hovey, for cut flowers, \$1 each.

FRUIT: From Hovey & Co., Doyenné d'Été pears. From O. Johnson, Black St. Michael figs; Muscat of Alexandria grapes, and Red and White Dutch currants. From M. P. Wilder, Cluster pears, one of Gov. Edwards's seedlings. From O. N. Towne, grapes. From A. D. Williams & Son, Williams's, Red Astrachan, Bough and Spice apples. From E. M. Richards, Early Harvest, Williams, Bough, Summer Rose, Red Juneating and Sugar-loaf Pippin. From Joseph Lovett, fine Roaring Lion, and Houghton's Seedling gooseberries, and fine Victoria currants. From F. W. Dana, Garretson's Early and Sops of Wine apples. Very fine blackberries from G. Merriam and C. E. Grant. From W. C. Strong, Peach plums, fine. From B. V. French, fine Early Harvest and Irish Peach apples, and blackberries. From J. Washburn, Red Astrachan apples. From F. Tudor, Easter Beurré pears, preserved by D. T. Curtis, and in good condition. From E. Brown, Lynn, Red Astrachan and Early Harvest apples. From J. Eustis, fine Early Harvest apples. From J. Hovey, very fine Early Harvest apples. From H. Vandine, Jaune Hative plums, Sops of Wine apples, and Breda apricot.

Fruits tested by the committee: Early Harvest apple, fine; Garretson's Early, fine flavor and a fair fruit. Cluster pear, *inferior*. Doyenné d'Été pear, first quality.

August 17. An adjourned meeting of the Society was held to-day,—Vice President, E. M. Richards, in the chair.

On motion of C. M. Hovey, the following delegates were appointed to attend the exhibitions of the New York State Fair and American Institute:—

S. Walker, B. V. French, J. S. Cabot, C. M. Hovey, M. P. Wilder, Eben Wright, Jos. Breck, Otis Johnson, J. S. Sleeper, delegates to the New York State Fair.

S. Walker, M. P. Wilder, C. M. Hovey, W. R. Austin, E. A. Story, delegates to attend American Institute.

Adjourned two weeks to August 31st.

Exhibited.—FLOWERS: The premiums for phloxes were awarded to-day, and there was a very fine display of a large number of varieties, including a few beautiful seedlings. Messrs. Breck & Co. had a very fine striped one, something in the way of Princess Marianne, but the flowers were larger, and the petals better; it belongs to the class of tall growing kinds, and produces its flowers in a dense panicle. Messrs. Carter and Barnes had some good seedlings, but nothing decidedly new. Breck & Co.'s stand contained *Nymphaea alba*, *Blanc de Neuilly*, *speciosa*, *rosea superba*, and seven seedlings. That of Hovey & Co. contained *Blanc de Neuilly*,

Nymphaea alba, Princess Marianne, rosea superba, Apollo, and five seedlings. Some fine phloxes, part of them seedlings, were also contributed by the President. Flowers and bouquets, from J. Nugent, L. Davenport, W. P. Callender, R. M. Copeland, Messrs. Winship, Geo. Walsh, W. Kenrick, J. Hovey, Miss Russell and others.

PREMIUMS AND GRATUITIES AWARDED.

PHLOXES.—For the best ten varieties, to Breck & Co., \$6.

For the second best, to Hovey & Co., \$4.

For the third best, to P. Barnes, \$3.

GRATUITIES.—To L. Davenport, Hovey & Co., Breck & Co., J. Nugent, Winship & Co., P. Barnes, and Miss Russell, each \$1 for cut flowers, &c.

FRUIT: From A. D. Williams, Red Astrachan, Williams's, fine, Bough and Orange Sweet apples; Jargonelle pears. From J. Gordon, Williams's and Bough, fine, apples. From J. Mann, House of Industry, Louis Philippe plums, very fine; probably the same as the Wheeler or Peach plum. From Mr. Clapp, presented by the President of the Society, Clapp pear. From S. Downer, Jr., Red Astrachan apples, very fine. From Messrs. Winship, Fondante d'Été pears. From E. Brown, Red Astrachan apples. From B. V. French, blackberries; River apples. From C. E. Grant, blackberries, very fine; Mousieur Hatif or Orleans plums. From M. H. Simpson, by D. H. Burns, peaches, very large and fine. From G. Merriam, blackberries, fine. From Hovey & Co., Victoria, Macready's Early White, White Nice, Muscat of Alexandria grapes. From Otis Johnson, Houghton's Seedling gooseberries; blackberries, fine; Red Astrachan apples, very fine. From Messrs. Breck, Jargonelle pears. From J. F. Allen, White Hamburg, Bishop's grapes, very fine; blackberries. From M. P. Wilder, Rivers's Favorite and Morocco plums. From E. M. Richards, Williams's Favorite apples, fine; Christiana melon. From J. Lovett, 2d, superior blackberries; Red Astrachan apples, fine. From H. Vandine, Yellow Gage, Yellow Honey and Peach plums; Early Harvest and Sopsavine apples.

Fruits tested.—From Mr. Richards, Christiana melon, very fine, sustaining the character of this variety as being the earliest and best hardy melon.

HORTICULTURAL OPERATIONS

FOR SEPTEMBER.

FRUIT DEPARTMENT.

GRAPE VINES in the greenhouse will now have fully matured their crop, which may be gathered as soon as possible, in order that the house may be cleansed and prepared for the plants next month. All the vines will require, will be to keep the laterals cut in, and to give an abundance of air to ripen the wood. Vines in cold houses will now be ripening their crop, and in cool weather should be kept rather close so as to ripen them as early as

possible; discontinue watering the floors and walks after the berries are well colored. Vines in pots should be sparingly watered now in order that the growth may be somewhat checked and the wood allowed to ripen well.

STRAWBERRY BEDS may be successfully made this month.

FRUIT TREES may now be transplanted by carefully cutting off all the leaves with the knife or a pair of scissors.

SUMMER PRUNING should yet be kept up on vigorous growing trees, in order that the flow of sap may be kept in check just at this season when the flower buds are forming.

PEACHES AND CHERRIES should be budded this month.

FLOWER DEPARTMENT.

DAHLIAS, in consequence of the late abundant rains, have grown rapidly and promise a great bloom. See that they are properly and judiciously pruned and carefully tied up to the stakes. Water liberally if the weather should prove dry.

CAMELLIAS should be top-dressed, washed, and got in readiness to remove to their winter quarters next month, or as soon as the nights become frosty.

PANSIES should be propagated this month.

WHITE LILIES may be reset this month.

PELARGONIUM cuttings put in in July should now be sufficiently rooted to pot off.

CINERARIAS should have a shift as soon as the pots are full of roots.

VERBENAS should be still propagated by layers for a winter stock.

ROSES, for early forcing, should now be repotted and pruned.

CHRYSANTHEMUMS should be layered, if not already done.

CHINESE PRIMROSES raised from seeds may now be potted off; old plants may now have a shift into larger pots.

HOLLYHOCKS should now be removed to the borders where they are to bloom.

SWEET WILLIAMS should now be planted out of the seed beds into the border.

AZALEAS should now be rather sparingly watered so as to ripen the wood and set their flower buds.

HEATHS may have a shift now if they require it.

ACHIMENES may be brought on for a succession, and those done blooming may be placed away on a dry shelf.

JAPAN LILIES done flowering should not be watered.

ORANGE and LEMON TREES may yet be bedded.

SCHIZANTHUSES should now be potted off into thumb pots.

CYCLAMENS should now be repotted and more liberally watered.

SALVIA should now be propagated for a spring stock.

TULIP BEDS should now be prepared for planting in October.

VICTORIA and TEN-WEEK STOCKS should now be sown.

NEPOLITAN VIOLETS should be planted out in frames this month.

IXIAS, SPARAXIS and OXALISES may be planted this month.

GREENHOUSE PLANTS of all sorts should now be got ready for removal to the house.

THE MAGAZINE OF HORTICULTURE.

OCTOBER, 1850.

ORIGINAL COMMUNICATIONS.

ART. I. *The Fruit Crop in Illinois; Beautiful Prairie Flowers; Fine Forest Trees; Insects; Pear and Apple Blight.* In a Letter to Dr. E. Wight, Cor. Sec. Mass. Hort. Soc. By DR. J. A. KINNICOTT, Northfield, Illinois.

DEAR SIR,—As in duty bound, I should like to give you a brief sketch of a month's tour through Central Suckerdome, and into the Southern "Hawk-Eye" border. But I have too many calls upon my time, as well as "draughts at sight" upon my slender powers of composition.

I will now attempt nothing, but merely state that the fruit crop throughout "the northwest" will be, upon the whole, a very large one. There are no peaches seen, until you get about one degree south of Chicago, and not many until you approach the latitude of Peoria; there they become very abundant.

The apple crop is a fair one, everywhere, and the PEAR, in proportion to age of trees, is the greatest, because the rarest, show we have.

Grapes are abundant where the ROSE BUG has not destroyed them, and in the middle and southern parts of the state there were oceans of the sour worthless Morello Cherry. There were few of any other sorts. Even the Dukes are not hardy with us.

I saw many beautiful, and some to me, new plants. An herbaceous SPIRÆA, with purplish pink flower stem, white petals and dark anthers; tall, graceful and very showy;

possibly the *lobata*. A very showy malva? on dry, sandy prairies, may be *M. triangulata*. Of plants known to me, the tall *Rudbeckia purpurea*, with its conspicuous drooping purple ray, was going out of flower; but the yellow species, especially the *fulgida*, were found in dense "beds" on dry prairies, as gay as sunshine in spring.

Our native black or red mulberry, with its rich, broad leaves, entire or lobed, and its very early, slightly tartish fruit, I deem a very desirable tree for introduction. When introduced, it improves in appearance and fruitfulness. The woods border is full of beautiful trees, of second and third magnitude, besides maples, oaks, elms, butternut, black walnut, and bass wood, all fine shade trees. Of smaller ones, you have *Cercis canadensis*, (Red bud,) and *Gymnocladus canadensis*, (Coffee tree.) What can be more graceful than this hardy little tree, with its rich bipinnate leaves.

But I am forgetting the Rose Bug, in my enthusiasm for trees. This pest has, this year, in many places, eaten every thing he could "lay his teeth to,"—flower, fruit, and foliage. I was told that they had been gathered *by the bushel*, by shaking vines and fruit trees over sheets, &c.

What are we to do for or *with* these vermin? The curculio seems to have some limit to his or *her* fecundity, but this disgusting and omnivorous Rose Bug, is as prolific as an aphid.

And here is our native caterpillar, a little fellow, only about five-eighths of an inch long, when grown; with a double row of dark beads on his back, and plenty of feet, which he does *not* use to crawl beyond the limits of his nest. This nest is often a large one; sometimes only made over the leaves of a single branch; sometimes including two or more branches that naturally meet. Within this silky nest, which entirely envelops the devoted limb, or portion of foliage, these rascals lie at their ease, "suck the blood" of the tree, and remove the entire corticle from both sides of the leaf, leaving it a perfect skeleton, which, with its gauzy shroud, has a most ghost-like look. And when the *whole tree* (as is often the case,) has been colonized, and every leaf decorti-

cated, you can tell as well as I, what the ghost of a tree is worth.

I wish somebody would send me Harris's work on Insects ; though rather old for a new science, I believe I would study Entomology. I inquired for this book, but could not find it in the Chicago bookstores.

I wonder if insects are really more abundant of late years, or are we *noticing* them more? I think the latter most likely. As our taste for good fruits improves, and our knowledge of its excellence as food and *medicine* induces us to plant largely, our *interests* and inclinations make us watch carefully what we value highly, and we see more insects because we look for them ; and yet the mischief they do is incalculable.

But I must stop. How many of you may I hope to meet in "The Queen City of the West?" Next month is the time, 11th, 12th and 13th. Rather early, perhaps. It is to be hoped that "the cholera," (which I must think is full cousin to the "pear tree blight,") may have left ere that time. And this reminds me that I have said never a word about the Quince and Apple blight, except what I told you in my last. But in many places, especially east of the Illinois river, I saw orchards where from one-quarter to one-half of the *fastest growing* trees were blighted in the top ; all the new, and often some inches of the last year's wood, *black* and *dead*, giving the tree and orchard a more *deadly* look, than even the caterpillar. I think it is the same as "pear blight," an atmospheric disease. I have here *one* apple, *one* pear, and several quinces—the latter badly affected.—*In much haste*, JOHN A. KINNICOTT, Northfield, (late the Grove,) Cook Co. Ill., August 8, 1850.

To DR. E. WIGHT, Cor. Sec. Mass. Hort. Soc.

[We are glad to welcome the Doctor's letters to our pages, and trust he will continue them, as they are read with much interest by many of the members of our society. No one in the West is better able to impart information which will interest Eastern Pomologists.]

ART. II. *Polmaise Method of Heating Greenhouses and Hothouses, compared with Hotwater, scientifically and practically considered.* BY R. B. LEUCHARS.

(Continued, from p. 389.)

WE will now proceed to take a view of the influence of the atmospheres warmed by the two methods of heating already mentioned.

It has been shown that animals cannot subsist in an atmosphere which has been warmed in its passage through metallic tubes, and it has also been satisfactorily ascertained that plants will not thrive in an atmosphere which has been heated to a certain temperature, even though its due equivalents of aqueous vapor be restored to it.

It is scarcely necessary to prove facts with which every gardener is acquainted, regarding the extreme susceptibility of many plants to the presence of deleterious gases in the air which they respire. Indeed they are, in many instances, more susceptible than animals; we have often seen plants injured by tobacco smoke, when myriads of aphides and coccus remained alive. The facts are even more strikingly sensible under the influence of sulphurous acid gas, as well as chlorine, muriatic, hydrogen, and other gases; by these, many plants will be destroyed when insects remain uninjured; and we have proved that to apply these gases in quantity sufficient to exterminate insects, vegetation, if present, must also suffer. Sulphurous acid gas has been found to destroy leaves in forty-eight hours, even when present only to the amount of $\frac{1}{1000}$ of its volume, and the vapor arising from a solution of corrosive sublimate has proved destructive to vegetable life, even when its presence was inappreciable to the senses.

Now, I am not aware that these gases are neutralized by the evaporation of water in the house. We know that when perfectly free from vapor, they expand $\frac{1}{1000}$ or .002083 for each degree of Fahrenheit, but then air is 20 times heavier at 100° than at 20°, i. e. it contains 20 times more

vapor at the temperature of 100° than at 20°, and therefore the expansive power of these gases must be decreased by saturation, and consequently their escape from the house prevented. The following Table, showing the quantity of vapor contained in atmospheric air, at different temperatures, computed from Dalton's experiments on the elastic force of vapor, will be useful to those who are interested in this important subject :—

Temperature of air.	Quantity of vapor per cubic foot, in grains weight.	Temperature of air.	Quantity of vapor per cubic foot, in grains weight.	Temperature of air.	Quantity of vapor per cubic foot, in grains weight.
20°	1.52	48°	3.98	76°	9.53
22	1.64	50	4.24	78	10.16
24	1.76	52	4.52	80	10.78
26	1.90	54	4.82	82	11.49
28	2.03	56	5.13	84	12.20
30	2.25	58	5.51	86	12.91
32	2.32	60	5.83	88	13.61
34	2.48	62	6.21	90	14.42
36	2.64	64	6.60	92	15.22
38	2.82	66	7.00	94	16.11
40	3.02	68	7.43	96	17.11
42	3.24	70	7.90	98	18.20
44	3.48	72	8.40	100	19.39
46	3.73	74	8.95		

By the foregoing Table we find that a cubic foot of air at the temperature of 20°, contains only 1.52 grains of moisture, while the cubic foot of air at 100° contains 19.39 grains, or nearly twenty times the amount.

Now, if the amount of moisture abstracted by the rarefied air, the absorbing surfaces of flues or other bodies, must be restored to the atmosphere by evaporation of water into the house, then it appears evident that the internal atmosphere must be kept continually at the point of saturation, throughout the whole of the winter months, and this is precisely how it is with many, the effects of which are no less injurious than excessive aridity ; for we all know very well, that when not in a state of active growth, an excess of moisture in the air, either with a high or low temperature, is prejudicial to plants ; and in winter, plants are rarely in a condition to bear an excess of moisture for any length of time.

If the temperature of the house is kept high, excitability will remain in a state of continued action, and the plant will be deprived of that rest, which is allotted to it by nature, and, consequently, though it may elongate its shoots, its vital energies will be exhausted and its death will soon follow. Instances of this have come under the observation of every one, where a high night temperature is kept up and the atmosphere saturated with moisture; the plants will expand their half-organized shoots during the night, but if the sun shines on them the following day, the very rays that should strengthen and consolidate their tissue are too powerful, even at mid-winter, and in a few minutes they appear as if they had been plunged in boiling water, and ultimately dry up; this is the effect of excessive moisture and a high temperature.

But, on the other hand, if the hygrometric state of the atmosphere be kept high, and the temperature low, the moisture is then absorbed by the dormant leaves and branches of the plants, without their being able to decompose it; these absorbent parts become distended with water and decomposition takes place,—or what gardeners technically term damping off. These decomposing portions become covered with a crop of microscopical fungi, and in many cases the decay thus caused is attributed to attacks of insects or something else than the real cause, to which, however, it is very easily traceable, viz., the presence of moisture in excess in the atmosphere.

The same effects are produced on fruits in their process of maturation, when the use of artificial heat from drying and absorbing surfaces renders much evaporation necessary. But under such circumstances evaporation should seldom be resorted to, for the injury is more certain than the probable good that will follow. A less humid atmosphere is more advantageous to fruits of all kinds, when the period of their maturity approaches, than in the earlier stages of their growth, and the excess of moisture necessary to restore the aqueous vapor of the atmosphere of a hot-air stove, would prove,—and in our experience has done so,—injurious to forced fruits, and other vegetable productions.

We have already stated, in a previous paper, that the heat radiated from hotwater pipes and smoke flues is precisely similar as regards purity. This statement, however, must be read with a reservation, and though the statement is theoretically and absolutely correct, it is open to misconstruction. Caloric radiated from the one body is just as pure as the other,—their increments of moisture being just in proportion to their increments of heat. Thus, if heat given off from hotwater pipes be 80° , and heat from flues 80° , then both have the same capacity for moisture, and both take the same quantity of moisture from the house. This seems a paradox to some gardeners but it is correct to the smallest decimal, and it is difficult to get an intelligible reason of the common expression used by gardeners, "that heat from hotwater pipes is sweeter and purer than by any other means of heating." This is an undeniable fact, but let it be attributed to the right cause, and then, after all, we will find that the old smoke flue does not deserve the character for impurity that some would ascribe to it.

The unsuspected cause of the dryness of the atmosphere in hothouses heated by smoke flues, is caused by the destruction of the aqueous vapor by absorbent surfaces of the material of which they are built; too often of very soft bricks. Their power of absorbing the moisture of the air increases rapidly with the softness of the material, and the temperature to which they are heated; while the unabsorbent surfaces of hotwater pipes attracts no moisture at all.

This state of things is not, however, an inevitable condition of this method of heating, which serves to show how comparatively little attention has been directed to the construction of smoke flues. Notwithstanding the many systems of heating now brought into notice, we find the common flue, with all its faults and imperfections, just the self-same thing it was a hundred years ago; and instead of any attempt to improve it, our apparatus improvers have introduced various abortive methods which approach it in merit just in proportion as they approach to it in construction. It is true that the vapor is destroyed and gases eliminated by

the flue as we too often find it, but the former can be to a very great extent done away with, and the latter prevented *in toto*.

We are fully satisfied that flues built well, of hard brick, and covered with slate, when not heated beyond 100° , radiate a heat in every respect as pure as hotwater pipes; no gas is eliminated, and the absorption of vapors is almost inappreciable.

It is essential to observe here that other causes of aridity exist which are seldom taken into full consideration in judging the specific properties of the different methods of heating hothouses. The greatest of these is the radiation of heat from the roof of the house, and the exit of the air from the interstices of the glass. Before, therefore, a proper estimate of the heat generated in a house can be made, this ought to form a paramount consideration. By overlooking these circumstances which are intimately connected with the principles of heating hothouses, many of the plans hitherto brought before the public can be considered as little better than wild speculations, or fanciful whimsicalities, unsupported by any reasonable or practical foundation.

In a paper published by Mr. Daniell in the *Transactions* of the London Horticultural Society, as far back as 1824, he says that "the glass of a hothouse at night cannot exceed the mean of the external and internal atmospheres, and taking the mean at 80° and 40° , then 20 degrees of dryness are kept up in the interior of a house, or a degree of saturation not exceeding .528. To this, in a clear night, we may add at least 6 degrees for the effects of radiation, to which the glass is particularly exposed,* which will reduce the hygro-

*The amount of external radiation differs under various circumstances, as in the case of wind, exposure, &c., it increases in rapid ratio at very low temperatures, and in our severe winters here, when the thermometer is below zero, the loss of heat by external radiation is sometimes even as much as one third of the whole heat generated. Mr. Daniell's allowance is evidently too low under any circumstances. I have come to a tolerable estimate in clear nights by taking one quarter of the difference between the two atmospheres, which in this case would be 10 degrees instead of 6. I have found no accurate rule, however, that can be generally applicable to ascertain the exact amount of heat radiated from hothouse roofs, as the result will differ widely in houses standing

metrical point to .424,* and this is a degree of dryness which cannot be otherwise than injurious to vegetable life. It will be allowed that this is not an extreme case, and much more favorable than must occur during the winter season.

From what has already been said, the advantage of having not only *conducting*, but also radiating bodies distributed equally over the lower surface of the house, will be sufficiently obvious, if we would obtain the advantage of the laws by which heated bodies give off their caloric. To effect this we must use *conductors* as well as *radiators*, otherwise an equal distribution of heat cannot be obtained in a hothouse. As a traveller and carrier of heat, hot water is decidedly the best agent that has yet been discovered, and it is matter of surprise that prejudices should still exist against this excellent method. This, however, is only the case, as we know from experience, where its merits and its principles are alike imperfectly understood; and, therefore, the failures which have occurred in the practical application of this method of heating, are distinctly referable to the want of a proper knowledge in their construction and of the principles on which they work. Its merits, however, will best appear by the plainest statement of facts, and as no method, however perfect in itself, can give satisfaction unless properly constructed and properly applied, and it may be remarked that many apparatus have proved wholly abortive, through the most trifling causes, I shall therefore proceed to describe some of the causes of failure, and how success may be most easily attained.

Boston, August, 1850.

(To be continued.)

close by each other. The Table of cooling bodies by radiation, given in a preceding part of this article, page 336 of the September number, which is calculated from accurate data, will assist the learner in his study of this part of our subject.

* It may be necessary here to explain what is meant by the point of saturation. The natural scale of the hygrometer is included between the points of perfect dryness and perfect moisture, the latter of course being that state of the atmosphere at which the *dew point* coincides with that of the air. The intermediate degrees may be ascertained by dividing the elasticity of vapor at the temperature of the dew point by the elasticity at the temperature of the air. The quotient will express the proportion of moisture actual-

**ART. III. *Notes and Recollections of a Visit to the Nurseries of Messrs. Hovey & Co., Cambridge.* By LONDON-
IENSIS.**

THE following notes were written for publication in one of the gardening newspapers in London ; but a friend of the writer, to whom the letter had been shown, was so much gratified with them, that he has, with his permission, forwarded us an extract, giving a brief account of a visit to the grounds of Messrs. Hovey & Co., which, as showing the opinions of a foreigner upon the extent and management of American nurseries, will be found very interesting :—

As you are already aware, I am not much prepossessed in favor of the American method of nursery management, if method it can be called ; the culture and keeping of them, being apparently determined by the quantity of ground occupied by the respective individuals. As to *keeping*, in its general acceptation, it is, except in a few solitary instances, unknown. The most striking feature in an American nursery is the want of system, or method, in the disposition of the grounds, and the arrangement of the articles for sale. On calling at a nursery for a dozen pear trees, for instance, you will probably be shown to as many different places before you can decide which to take ; and, if the weather be damp, certes, this is no pleasant business, as there are no walks, and you may as well go through a ploughed field. In short, the nurseries of this country present, with a few exceptions, a *melange* of weeds, and confusion.

I have said that there are some exceptions to this sweeping statement ; and one of the most striking exceptions is that of the nurseries of Messrs. Hovey & Co., at Cambridge, near Boston, which I visited a short time since ; and, as

ly existing, to the quantity which would be required for saturation ; for, calling the term of saturation 1.000, as the elasticity of vapor at the temperature of the air is to the elasticity of vapor at the temperature of the dew point, so is the term of saturation to the actual degree of moisture.

you have some correspondence with this house, and may wish to know some particulars about their establishment, I shall give you some from notes and observations which I made at the time of my visit.

The Cambridge nurseries are about two miles from the city of Boston ; but such are the facilities for travelling, that you can take an omnibus every few minutes of the day, which lands you near the spot. The principal entrance is on Cambridge street, a fine wide avenue leading to Harvard University, just beyond. Entering by this gate you find yourself upon a fine, smooth, promenade walk, about sixteen feet wide, bordered on each side by circular masses of exotic flowers ; directly in front of you stands a span-roofed plant-house, or conservatory, of Grecian construction. It is about ninety feet long and twenty feet wide, with a low span-roof. The entrance-front, which is ascended by a broad flight of steps, is formed by a projecting part of the main house, and comprises the office, gardener's room, &c. The garden front shows a fine *facade*. The whole is highly finished with a heavy entablature, and pilasters between all the sashes, which reach to the floor all round.

It is seldom that a house like this, in an architectural point of view, is to be found in a nursery establishment ; and its position is admirable, both as regards convenience and effect. In front of this house is a fine open lawn, of an acre or more, dotted with clumps of flowering plants, and single trees of the rarer species, more particularly of the new weeping trees and coniferæ. This lawn is encircled by a broad walk, on the lawn side of which are circular beds of the choicest summer blooming plants. I did not much like this multitude of circular beds, but it is the general style throughout the country. The people here seem to have a Londonian fondness for round figures ; but, with all my prejudice, I must confess, that this part of the grounds looked more like the private pleasure ground of some English gentleman than that of a public nursery, and manifests, in a very striking manner, the liberal and extensive scale on which the proprietors of this establishment conduct all their operations.

The approach from the gate, on reaching this conservatory, diverges east and west at right angles. That on the left entering an avenue of maples, about thirty feet high, and hung to the very ground with branches, so that their stems are entirely hidden by the umbrageous foliage. This avenue runs through the nursery, about a quarter of a mile in length, at the extremity of which is the residence of Mr. C. M. Hovey, a fine cottage, in the rural Gothic style, more fully carried out than any I have seen. This extremity of the avenue opens on another broad street to the city, and forms another entrance to the grounds. Nothing can exceed the beauty of this avenue; and I am astonished that the landed proprietors of this country do not take the example which is here given them, and adorn their demesnes with avenues like this. But they like better to cut down avenues here than to plant them. To tell you the truth, I have never seen anything so grand as this in the middle of a nursery, either here or in England.

The other diverging walk leads to the plant houses, the first of which is a structure of immense proportions, one hundred by thirty feet, but so constructed and arranged as to be admirably adapted for the purposes intended, viz., the growth of large plants, chiefly planted out, in the borders of the house. In short, it is a specimen house, and it contained, at the time of my visit, many fine large specimens of *Acacias*, *Boronias*, *Abutilons*, &c. The beautiful *Abelia rupéstris*, five feet high and two feet through, one mass of fragrant flowers; large bushes of the *Cuphea platycéntra*, six feet high, and as much in circumference, *Céstrum aurantiacum*, *Gloxinias*, *Gesnerias*, Japan *Liliums*, of which there is a thousand seedlings, and—I had almost forgot—a *Cryptoméria japonica*, ten feet high, the finest plant I have yet seen. I have not space in this letter to enumerate all the plants in this house worthy of notice, nor, indeed, in any of the others. I will just mention that, in another house, also about one hundred feet long, I saw a splendid collection of *Geraniums*, containing the best and newest varieties, from your neighbor at Isleworth. The collection, altogether, amounts to about twenty thousand plants.

The fruit department of this nursery, however, is by far the most interesting and extensive that I have yet seen. It occupies upwards of thirty-six acres, and contains upwards of *sixty thousand pear trees* alone. Now, as you are interested in this department of the business, I will describe the disposition of the ground. and the method of arrangement pursued.

In the first place, the nursery is laid out in angular divisions, diverging from a common centre. These divisions are separated from each other by wide walks and avenues, on each side of which is a border some eight or nine feet wide. These borders are planted with specimen trees, inside of which are the quarters for the nursery stock. These specimen trees are kept for the purpose of proving sorts, and showing the habits and peculiar characters of the trees. I have heard you praise up Rivers's nursery at Sawbridgeworth, and its specimen trees; but Rivers's nursery is nothing to this. I believe there are above *two thousand* specimen trees here, many of them now loaded with fruit. I understand the proprietors of this establishment prove all their fruits before they send them out; a plan which cannot be too much recommended, especially as the majority of nurserymen too often prove their fruit trees at the expense of those who purchase them.

I observed a number of pears that had been planted out last fall, with goodly crops of fruit on them, of fair size, and of fine appearance. I was not aware that the method of Mr. Rivers was adopted in this country, which I find is the case here, viz., that of keeping fruit trees, especially pears, in a prepared state, i. e., a fit state for removal at almost any age, with a certainty of bearing a crop of fruit the same season. This is effected by lifting the trees every fall, by which they form a large mass of fibrous roots, close to the stem, and thus they may be carried to any distance, with the sure prospect of bearing fruit the following season, if planted in the autumn. I believe this is the only nursery in America where this method is practised. But, in my opinion, it is as profitless a method here, as it is in England—

from the same cause—that few gentlemen fully consider the value of a few years gained in their life-time, which is the case by planting a handsome established tree in the fall, and gathering a crop the following summer. But such trees cost more money, “aye, there’s the rub.” They will rather buy trees one year from the bud, at a low rate, than pay two or three dollars each for trees in a fruit-bearing state. Now, in planting orchards, this is all very well; but for those who have only a few years before them to enjoy the produce of their own planting, and who only want a few good fruit—and want them as quickly as possible after planting—then plant good healthy fruit-bearing trees, that have been annually removed, and if they are well cared for they will give satisfaction. I would not by any means discourage the planting of young trees, for they must be the stay and support of the fruit crop. But I would have planters who have spent their lives in business pursuits, and who are on the wrong side of sixty, to consider, when they are planting one year old trees, that, before the trees may give them much fruit, they may have ceased to require it.

In this nursery every sort of fruit is planted by itself,—not in dozens, or even in hundreds,—but in thousands, one year olds, two year olds, three year olds, and so forth, all by themselves, so that you go, point blank, to the very thing you want. Everything in the trade is to be found here, as the proprietors spare no expense in securing everything they hear of, and a finer stock of fruit trees is not to be found, either in England or out of it.

Another point to which I will advert, is the keeping of this nursery. Most nurseries are tolerably well kept for a few rods round the entrance; and on entering this one I was not inclined to say much in favor of the beauty of its borders, and the tidiness of its walks, but the impression first made upon the mind, remains with you throughout; every place is clean, and everything in good order.

The proprietors of this establishment are gentlemen of high standing, and thoroughly business men. One of them superintends the seed business in the city, the other the

nurseries at Cambridge. The latter gentleman possesses an extraordinary knowledge of fruit and fruit trees, so much so as to be able to distinguish almost any sort by the leaf or wood; and is, besides, a gentleman of great talent and learning. Mr. Hovey edits the *Magazine of Horticulture*, and is the author of the *Fruits of America*, one of the most splendid Pomological works ever published.

I was anxious to see these nurseries, having frequently read about them; and I assure you I was not disappointed. The accounts which you say you have read of them in England are by no means exaggerated. There are some nurseries in this country which occupy a greater extent of ground than these, but none where all the branches of the nursery business are so extensively carried on, and so admirably managed. I have omitted saying anything about the flower grounds, which I shall do at a future time, as well as some hasty notes of other places here, with my own strictures thereon. * * * * *—LONDONIENSIS.

Boston, August, 1850.

ART. IV. *Salt and Lime for the Curculio.* By C. GOODRICH, Esq., Burlington, Vt.

Sir,—The following experiments, made by Mrs. Edwin Benedict, of Plattsburgh, N. Y., may be useful in settling the question, whether salting trees destroys the Curculio. If you think so, use them as you see proper.

EXPERIMENT 1. Plums, about one-third grown, punctured, and containing eggs of the Curculio, were placed in a common flower-pot, the last week in June. Soil from the garden, about six inches deep in the pot. Fine salt about one-quarter inch thick on the soil; plums laid on the salt. The grubs came out of the plums, passed through the salt into the soil, and the perfect Curculios came out about August 1st.

EXPERIMENT 2. The same as the first, except that fresh air-slacked lime was put on the surface of the soil instead of salt. Result the same as the first.

EXPERIMENT 3. The same as the first, except the pot was filled with soil only. Result the same.

The pots all stood in the garden, exposed to the weather, which was rather wet with frequent showers. They were all wet and examined at the same time, about five weeks after placing the plums in the pots, when there were perfect insects in every stage of formation, from the white grub, near the bottom of the pots, to the perfect beetle on the surface, ready to fly. The salt had all washed into the soil, and there was no difference in the appearance of the insects in the three pots.

EXPERIMENT 4. Three bowls, one with salt on the surface, one with lime, and one with nothing but soil, were treated in every respect like Nos. 1, 2, and 3, excepting they were placed under a shed so as not to be exposed to rains. Results the same.

EXPERIMENT 5. Curculios put in a tumbler, four plums put with them, as they came from the trees, with one covered with fine salt. On the second day the salt had dissolved so as to leave the plum wet, with a strong brine, when it was punctured by the insects in numerous places, and eggs deposited in the same manner as in the plums not salted. In another tumbler plums and insects were placed in the same manner, excepting one plum was covered with fresh lime. This was punctured in many places, and eggs deposited the first day.

Mrs. Benedict also made experiments by covering the soil about one-quarter of an inch with fine salt, and placing the grubs as they came from the plums on the salt. They invariably worked through the salt and went into the soil, in about fifteen minutes, without any apparent injury.

I was at the house of Mr. Benedict one week since, when Mrs. Benedict showed me a large tumbler, about two-thirds filled with garden soil, in which she had placed the grubs taken from the pots in the garden, when emptied about three weeks previous. The tumbler was covered with a small plate, and had plums placed on the top of the soil, which had been often changed for fresh ones from the trees. There

were numerous perfect insects among the plums, and very active. Confinement did not seem to trouble them. In this tumbler she placed a plum dipped in strong tobacco water, which was soon punctured like the others. On emptying the soil from the tumbler I found it filled with the insects, in every stage of formation, from the apparently dormant grub to the perfect one, ready to fly. The grubs had formed small cells for themselves in a ball of earth, about half an inch in diameter, which might be rolled across a table without breaking. Mrs. Benedict intends to continue her experiments, which if you wish I will send you hereafter.

Mrs. Benedict confirmed the statement of the brown beetle or May-bug, made by Mr. Tuttle, and published in your Magazine. She said that they had been so destructive this season to their plum trees, that they had no remedy but to destroy them; that they caught twelve quarts on one evening; that they measured them, as taken, until they measured two and a half bushels. That they caught in all more than three bushels. She caught some and put in a lace net and hung on a plum tree, and put in plums about one-third grown. They would invariably eat the whole, excepting the pits. They also invariably attacked the flowers of apples and pears, and the leaves of the elm, butternut, oak, ash, and willow.

It may not be improper to add, that Mrs. Benedict is the most accomplished Lady Horticulturist I have ever met with,—that her residence is on a farm about two miles from, and in full view of, the lake; soil a clayey loam. That while her husband is almost constantly “in town” engaged in his business as a merchant and manufacturer, she seems to manage the *Home Department*, and its appearance shows with what success. Having plenty of room and numerous trees, shrubs, vines, &c., &c., with more than one hundred plum trees of various kinds, her experiments are of more practical value than if made in a village garden, with half a dozen trees.

Burlington, Vt., August 26, 1850.

ART. V. *Description of a New Seedling Apple, called Rough and Ready, with some Account of its History, and an Engraving of the Fruit.* By CHAS. P. COWLES, Esq., of Syracuse, N. Y. With a Note by the EDITOR.

Dear Sir,—As you are at the head of all Horticultural publications in New England, I thought you might wish to see the fruit of a new apple grown in this vicinity. Then, if you thought it worthy of circulation, through your interesting Monthly Magazine, I would give a few notes, with a description, that you may dispose of them as you like.

As it is not known in this place, nor state, by the best judges, I safely think it is a seedling. I found a few trees in the Onondaga county, in a town of same name, which had been circulated by grafts; but nothing further could be traced of its origin. It is much more esteemed than the Early Harvest, with which it begins to ripen.

The specimens sent are of medium size, owing to its great productiveness; of the quality and beauty you may judge for yourself. I have taken a sketch and a few rough notes, which are at your disposal.

Fruit above medium size, oblong, largest at the base, gradually narrowing to the eye, distinctly ribbed: *Color*, green, when fully ripe of a beautiful straw color, tinged with a bright blush on the sunny side: *Flesh*, tender and excellent, fine grained, somewhat melting, of yellowish color, abundant in juice, of an agreeable subacid flavor: *Stalk*, large and stout, inclining to one side, from one to one and a half inches in length, deeply inserted in an irregular cavity: *Eye*, small and closed, segments reflexed, distinctly plaited. An abundant bearer, with the remarkably good peculiarity of ripening a long time, as wanted for use.

It commences the first of August, and lasts till into September. Tree of vigorous growth, making a fine head. Wood of light brown color, resembling the Porter, of stocky growth, like the Gravenstein, in the nursery. Leaves glabrous above, quite downy beneath. Owing to its great productiveness it

makes but little annual growth. The ends of the twigs are very stout and blunt, and of nearly the same size at the end as at the joint. I propose to call it "Rough and Ready,"

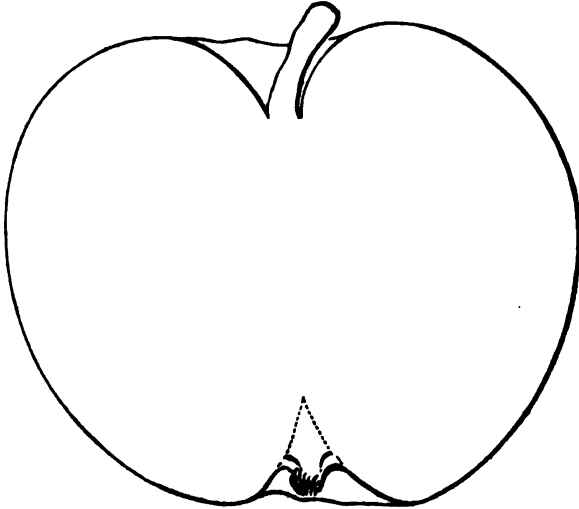


Fig. 24. Rough and Ready.

from the fact of its being first tested during that campaign; and as it is a familiar one throughout the country, I have sent specimens to numerous amateurs, with grafts to test its qualities in different localities, with this name.

Syracuse, N. Y., Aug. 1850.

Several fine specimens of the apples, accompanied with the following letter to the President, Samuel Walker, Esq., were received by the Massachusetts Horticultural Society, and they were tested by the Fruit Committee, whose report will be found in another page. It proves to be a new variety, at least to Eastern pomologists, and well worthy of extensive cultivation. We annex Mr. Cowles's note, which has been placed in our hands by Mr. Walker:—

To the President of the Horticultural Society, Boston.
Dear Sir,—By express I send two dozen specimens of a new native fruit to you, and through you to the members of your society, that you may identify the name if it is

known; if not, to test its qualities as worthy of more general culture.

Messrs. Downing, Barry and Thomas, think it a new variety.

It commences to ripen the first of August, and gradually ripens as wanted for use, till middle of 9th month. In every respect it is superior to the Early Harvest, and being such a great bearer, as well as vigorous grower, is much esteemed where known.

The specimens are below the average this year, owing to its great productiveness; but I hope they will carry safely, that you may sufficiently examine them, to judge correctly.

It is but little known as yet, but where it is, its qualities are much esteemed. As I cannot trace it from this place, and not being known by those above distinguished pomologists, I think it must be a seedling. I propose to call it "Rough and Ready," and have sent specimens three years to test it.

You may hand this note to C. M. Hovey, Esq., that I have annexed, and show him the fruit. There is also a new Pear Seedling, that I saw last fall, that is superior to nine-tenths of those in cultivation, and which has withstood the blight, while others have all been killed around it. I hope to send a specimen, if you shall desire it.—*Respectfully, thy friend,*
CHARLES P. COWLES.

To SAMUEL WALKER, Esq., Pres. Hor. Soc., Boston.

Our thanks are due to Mr. Cowles, for his account of the apple, and also for a few specimens, from which our drawing was made.—ED.

ART. VI. *Descriptions and Engravings of Select Varieties of Plums.* By the EDITOR.

THE very favorable season for the plum in this vicinity, and the abundant crops which have been produced, have enabled us to secure drawings and descriptions of several varieties, four of which we now give, in continuation of our article in our last volume, (XV, p. 492.)

13. JEFFERSON. *Mag. of Hort.*, Vol. XI, p. 23.

So high a reputation has been given to this fine plum, (*fig. 25*,) that it has been more generally sought after and planted than any new variety of recent introduction. Mr. Downing first gave an account of it in our Magazine, as above quoted, and eulogized it as follows:—"When fully ripe it is nearly—shall we not say *quite*—equal in flavor to the Green Gage, that unsurpassable standard in this respect. But when we compare the small and insignificant appearance of the Green Gage, with the unusual size and beauty of this new plum, we must admit that it takes the very first rank."

The same account of it appeared in the *Fruits and Fruit Trees of America*, and as a consequence, it was at once inferred that this variety was about to take the place of the

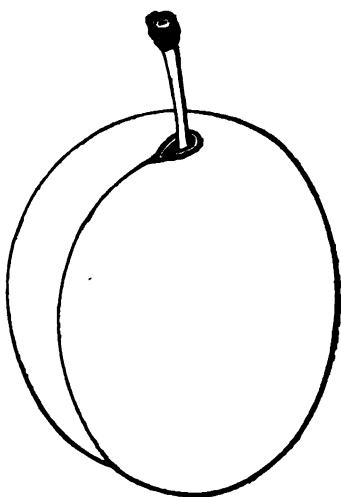


Fig. 25. Jefferson.

old Green Gage; but as the trees have now come generally into bearing, this expectation has not been realized. The Jefferson proves to be a most excellent plum, but no better than many others of the same season. It possesses, however, great beauty, and in this respect perhaps it equals, if not surpasses, any other variety; it has the same delicate yellow skin as the Washington, but this is blotched and marbled, in the most beautiful blending of tints, with crimson, lake and rich purple. It also has the excellent characteristic of hanging long upon the tree without rotting. Summing up all its qualities,—size, beauty, and fine flavor,—it must be ranked as a fine variety, answering as a very good substitute for the Green Gage when that variety is gone, though falling short of it in excellence.

The tree grows similar to the Green Gage, making short, stocky wood, and growing slowly when young. The branches are smooth, and the leaves of a deep glossy green.

Size large, about two inches long, and one and three quarters broad: *Form*, roundish oval, narrowing most on one side, near the stem; suture distinct, running half round, one side little larger than the other: *Skin*, fair, smooth, of deep yellow, clouded, marbled, and dotted with bright crimson and deep purplish red on the sunny side, and covered with a thin, whitish bloom: *Stem*, medium length, little more than half an inch long, moderately stout, and inserted in a small circular rim, set nearly even with the surface: *Flesh*, yellowish, thick, and melting, slightly adhering to the stone: *Juice*, abundant, rich, sweet, and delicious: *Stone*, medium size, ovate, sharply pointed, and nearly smooth. Ripe from the 1st to the middle of September.

14. IMPERIAL GAGE. Prince's *Pomological Manual*, Vol. II.

Prince's White Gage,	} of some American collections.
Prince's Gage,	
Flushing Gage,	
Superior Green Gage,	

The Imperial Gage (*fig. 26*,) is one of the most popular plums cultivated. Of remarkably vigorous growth, an early and abundant bearer, producing fruit of large size, and of excellent quality, it possesses all the good qualities which constitute a fine plum.

This variety was raised from seed, by the late Wm. Prince, in his extensive nurseries at Flushing, Long Island, and has been fully described in the *Pomological Manual* above quoted. It has been disseminated under the name of the White Gage, and in many collections it is still known only under that name, while in many others it is grown as the Green Gage, several instances of the latter having come under our own observation. It is so distinct, however, from all other plums, that there is little difficulty in distinguishing it.

The tree grows remarkably erect, making long, thick, annual shoots, often seven or eight feet in a season, dark

colored, and slightly downy. Its great productiveness may be judged from the fact, that the crop of a single tree, growing in the garden of S. R. Johnson, of Charlestown, has been sold for the very large sum of fifty dollars.

Size, large, about two inches long, and one and three quarters broad: *Form*, roundish oval, regular, little flattened at the base, narrowing to the apex, with a very shallow suture, one half slightly larger than the other: *Skin*, fair, smooth, dull greenish yellow, *distinctly streaked and clouded*, with pale green beneath, dotted with brownish red around the stem, and covered with a thin whitish bloom: *Stem*, medium length, little more than half an inch long, moderately stout, little curved, and deeply inserted in a round somewhat open cavity: *Flesh*, yellowish green, fine, melting, and very juicy, separating from the stone: *Flavor*, rich, sprightly, and delicious: *Stone*, roundish ovate, flattened, depressed at the ends, smooth. Ripe early in September.

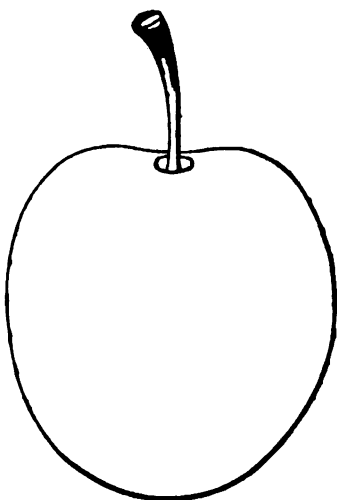


Fig. 26. *Imperial Gage.*

15. **PURPLE FAVORITE.** *Fruits and Fruit Trees of America.*

The Purple Favorite (*fig. 27,*) is supposed to have originated in the nurseries of Messrs. Downing, at Newburgh, N. Y. The original tree, from which scions were disseminated, died a few years since from old age; and as no variety has ever been imported which could be identified with it, it has been rightly supposed to be a native variety. It is one of the finest plums, not excelled by anything but the Green Gage, or the McLaughlin, and is worthy of a place in every choice collection.

The tree grows rather slow, with slender upright shoots, and nearly smooth wood.

Size, medium, about one and three quarter inches long, and one and a half broad :

Form, roundish obovate, narrowing to the stem, with a scarcely perceptible suture, half round, one side slightly larger than the other : *Skin*, rich purplish red, dotted with golden specks on the sunny side, and covered with a thin violet bloom : *Stem*, rather short, about half an inch long, slender, and inserted in a small round cavity : *Flesh*, pale green, very melting, and parting freely from the stone :

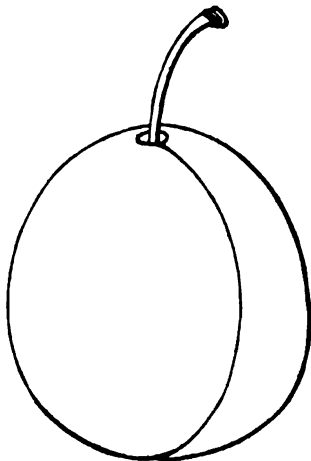


Fig. 27. *Purple Favorite*.

Juice, remarkably abundant, rich, sweet and deliciously flavored : *Stone*, very small, roundish ovate, very smooth. Ripe in September.

16. McLAUGHLIN.

Of all the acquisitions to our now extended list of American sorts of plums, the McLaughlin (*fig. 28*.) stands at the head. It is in fact the only variety which can claim an equality with the Green Gage ; a rank, we are aware, remarkably high, but one which, we think, will be fully sustained by further trial.

This fine fruit was raised by Mr. James McLaughlin, of Bangor, Maine, and first fruited a few years since. It is yet but very little disseminated, and has only fruited in three or four collections out of its native locality. Scions were sent to us four years ago, and the trees produced a few plums the present season, thus proving it to be a rather early bearer. It fully came up to the estimate we had given the variety after eating specimens from the original tree, when we re-

ceived our scions; and we shall be much mistaken if it does not become one of the most popular of all plums.

The tree is a remarkably healthy and vigorous grower, making very stout and remarkably short-jointed wood, with more prominent shoulders to the buds than even the Green Gage, and with large deep green foliage. Wood dark, slightly downy.

Size, large, about one and three quarter inches broad, and one and five eighths long: *Form*, roundish, regular, similar to the Green Gage, but depressed at each end, rather more broad than long; suture shallow, with an indented apex: *Skin*, fair, green, becoming yellowish when ripe, mottled and dotted with brownish red around the base, and covered with a thin whitish bloom: *Stem*, short, about half an inch long, stout, and inserted in a very small cavity, without depression: *Flesh*, yellow, thick, very melting, and adhering to the stone: *Juice*, abundant, rich, sugary, and perfectly luscious: *Stone*, small, roundish ovate, obtusely pointed, nearly smooth. Ripe the last of August.

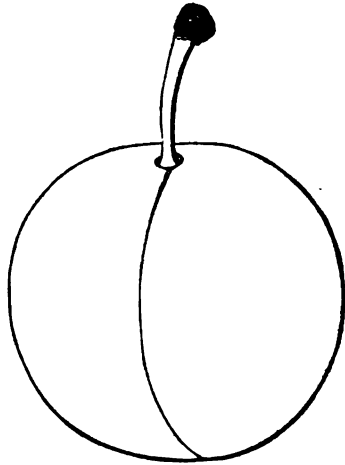


Fig. 23. *McLaughlin.*

ART. VII. *Pomological Gossip.*

DE MONTFORT PLUM.—This new plum, which has now been introduced four or five years, fruited for the first time this season, in the collection of Col. Wilder, and proves to be an excellent early plum, having much of the character of the Reine Claude Violet. It is about the same size, of the same color, and similar to it in form. It will rank among the best early varieties of this fruit.

LEWIS NECTARINES.—A basket of the most beautiful nectarines we have ever yet seen, was exhibited a few days since at the Hall of the Massachusetts Horticultural Society, by S. H. Perkins, Esq., of Brookline, of this splendid variety. There were about thirty in number, and the average size was about *eight* inches in circumference. A few of them, we should judge, would measure *nine* inches, being as large as the Early Crawford Peach. These specimens were the produce of some of the old trees, which were set out by the late S. G. Perkins, who first introduced this variety to notice, and whose garden is now under the management of his son, S. H. Perkins.

NEW NATIVE PEAR.—A new native pear was exhibited before the Massachusetts Horticultural Society, by Messrs. Hovey & Co., on the 31st of August, which will probably prove to be the finest summer pear now known. The committee, on tasting the specimens, pronounced them "equal to the Urbaniste in its finest condition," a recommendation of the highest character which could be given to a fruit. The pears are of large size, and beautiful appearance, attaining a fine yellow hue when mature, with a delicate blush on the sunny side, and ripen from the 15th to the 30th of August, just before the Williams's Bon Chretien, or Bartlett. The specimens were tried with the Rostiezer, Bloodgood, Dearborn's Seedling, and other early pears, and did not suffer by comparison with either of them, while they have the additional merit of being twice their size.

NEW SEEDLING PEAR.—Mr. Dana, of Roxbury, exhibited a new seedling pear, ripening about the same time as the Bloodgood, and having something of its appearance; it possesses, however, rather better qualities than the Bloodgood, and, should it improve by cultivation, it promises to become a very desirable acquisition.

THE RED ASTRACHAN APPLE.—Mr. O. Johnson, of Lynn, recently exhibited some specimens of this fine summer fruit, which demand especial notice. They were the largest we have ever seen, and most beautifully colored, with the delicate bloom finely preserved in gathering. We have rarely

seen so fine a basket of apples, and Mr. Johnson deserves great credit for his skill in the growth of this very desirable variety.

NEW SEEDLING STRAWBERRIES.—Our transatlantic friends are just now deluged with new seedling strawberries; no less than five or six being offered for sale, each of which is advertised as possessing superior properties. As some of our amateur cultivators of strawberries may like to procure some of these new sorts, we give their names and reputed merits:—

La Delicouse.—Its distinguishing characters are,—the plant of hardy habit and great productiveness of bearing; fruit rather above medium size, and of exquisitely rich flavor; color amber, like a Bigarreau cherry; season late; fruit remaining good longer after ripe than other varieties.

Kitley's Goliath.—Hardy, large, fine in color, a most excellent flavor, and forces well; all parties who have seen it growing, or tasted the fruit, have expressed their entire satisfaction with it.

Wilmot's Prince Arthur.—Combines qualities which no other kind at present in cultivation does possess, being of delicious flavor, and coming in after the principal strawberry season is over. The fruit is of the largest size, perfectly formed, a most abundant bearer, and, if planted at the distance recommended, it will produce double the weight per acre of any other variety.

Myatt's Surprise.—Raised from the British Queen, which it resembles, though of a more robust habit, and a very free bearer, producing a greater abundance of those large angular shaped berries than any other variety, and finishing off the fruit of a good size.

Britannia.—Possesses a combination of qualities, not to be met with in any other at present in cultivation, being a very strong grower, and an abundant bearer. It is as late as the Elton pine, and much larger. It ripens well in any situation, and bears six or eight fruit on one stem

We venture to say that not one of all these will compare with Keen's Seedling for general cultivation in the climate

of England. Mr. Wilmot, many years ago, raised a seedling called Wilmot's Superb, which was figured in the *Transactions* of the London Horticultural Society, and described as one of the largest and finest sorts ever seen; but it wholly disappeared in a few years. Mr. Myatt has raised a dozen or more seedlings, but none of them are worth anything but the British Queen. The Britannia strawberry, which is so highly praised, only produces "six or eight fruit on one stem," which at once tells its own story; our American sorts producing fifteen to twenty. We hope, however, some of these sorts may find their way into our gardens, and have a fair trial.

WENDELL PEAR.—This is the name given, in honor of our correspondent, Dr. H. Wendell, to one of Van Mons's seedlings which has fruited in the Pomological Garden at Salem. It is a summer pear, of excellent quality, and of medium size, having a somewhat russetty skin, tinged with red on the sunny side. We shall give a full description and engraving of it hereafter.

TWENTY-SECOND ANNUAL EXHIBITION OF THE MASSACHUSETTS HORTICULTURAL SOCIETY.—The annual exhibition for 1850, which has just closed, was one of the most remarkable, as regards the collection of fruit, ever made by the society—and probably one of the greatest ever made by any society, either abroad or at home. The report of the exhibition shows the immense number of pears and apples exhibited; and when we state that the specimens were finer than any ever placed upon the society's tables, some idea may be formed of the display. The whole of the society's hall, usually devoted to the display of fruit, was entirely filled with pears and grapes—and this, too, with an additional table, erected for the express purpose of accommodating the contributors; the store below, as well as the library-room of the society, was fitted up with broad tables, and these were covered with the apples, peaches and plums; the former being shown in great variety, and of extraordinary size, fairness and beauty. Indeed, the whole exhibition was highly gratifying to every pomologist, and evinced the rapid pro-

gress which has attended the culture of good fruit in the neighborhood of Boston.

The premiums awarded will be found in another page; but as it may interest many to know the varieties, we give a list of them here:—

The best twelve varieties of twelve specimens each, which obtained the first premium, were, Van Mons Leon le Clerc, Dunmore, Beurré d'Anjou, Beurré d'Amalis, Golden Beurré of Bilbao, Beurré Diel, Duchesse of Angouleme, Columbia, Urbaniste, Glout Morceau, Le Curé and Catillac, in Mr. Wilder's collection.

The second best twelve were: Knight's Monarch, Hull, Swan's Orange, Beurré d'Anjou, Le Curé, Louise Bonne of Jersey, Buerré d'Amalis, White Doyenné, Beurré Diel, Williams's Bon Chretien, Dunmore, and Beurré Seutin, in the collection of Messrs. Hovey & Co.

The third best twelve were: Brown Beurré, Beurré Bosc, Queen of the Low Countries, Van Mons Leon le Clerc, Winter Nelis, Duchesse of Angouleme, Louise Bonne of Jersey, Beurré d'Amalis, Glout Morceau, Beurré Diel, Buffum and Marie Louise, in the collection of Mr. Gordon.

These were all finely grown, large, fair, and every way splendid, giving evidence of what the several kinds will do when under good management.

ART. VIII. *Notes on Gardens and Nurseries.*

Residence of Mrs. W. P. Winchester, Cambridge. We recently visited this new place, but a short period after the death of the late proprietor, and as we walked up the avenue towards the mansion, a feeling of grief came over us, that one who but a few weeks before was in the enjoyment of so much beauty as this residence afforded, should rest in that sleep which "knows no waking," almost within hearing of the spot, where his hopes and expectations had concentrated, and where years of contentment and happiness appeared laid

up in store, to be enjoyed in retirement from the busy mart which had engrossed so many years of his early life. Truly has it been said that in the death of Mr. Winchester, society lost one of its most valued citizens. His kindness and benevolence had drawn around him a large circle of friends, and his highest pleasure appeared concentrated in the wish to render his home attractive and cheerful to all. Every part of the grounds bespoke this: several buildings for various amusements had been commenced, and the garden was to receive a fine addition in the construction of a large vinery and greenhouse.

Mr. Brown, the intelligent gardener, has greatly improved the grounds since our last visit; more especially the garden department. This has been separated from the lawn by a beautiful arbor vitæ hedge, five hundred feet long, planted last spring, and in fine condition after the favorable summer. All the walks have been edged with box, and new ones laid out. On the north side the foundation for the range of glass had been laid, and we were highly gratified to learn that it is the intention of Mrs. Winchester to carry out all the plans which were contemplated, and to build up the houses as speedily as possible, so that the vines may be planted the ensuing spring.

The main avenue has been planted with a row of fine Scotch larch, on each side, and the effect, when they get well established, will be excellent. The trees of various kinds planted last year have just begun to take hold, and add greatly to the appearance of the avenue. It only astonished us that Mr. Brown should be able to accomplish so much in so short a time.

The sailing pond, with the exception of the walks around the border, and the planting of a few trees on the island in the centre, have been completed since last year, and a fine boat-house, to combine a bathing-house, &c., was now just being finished. Mrs. Winchester could not have a better gardener to carry out what has been begun than Mr. Brown. Under his charge this place will be one of the most attractive around Boston.

REVIEW.

ART. I. *The Farmer's Guide to Scientific and Practical Agriculture.* By HENRY STEPHENS, F. R. S. E., author of the *Book of the Farm*, &c., &c., assisted by JOHN P. NORTON, A. M., Professor of Scientific Agriculture in Yale College, New Haven. Nos. 1 to 8. Published in semi-monthly numbers. New York.

WE have neglected to notice this publication, eight numbers of which have now been issued. Mr. Stephens is already favorably known to American agriculturists as the author of the *Book of the Farm*, a work which has passed through one American edition. The *Farmer's Guide* is merely a reissue of the same publication, but rendered much more valuable by the notes of Professor Norton, of Yale College, adapting it to this country. We regret that the title of the work has been altered, but the publishers give the following reasons for this course:—"It may be necessary to explain to *you*, what we have not announced to the public, that the title of the work is changed from that by which the foreign portion of it is now known. The British author, Mr. Stephens, published several years ago a work called '*The Book of the Farm*,' which was republished in this country, and is still in the market. The work we have now commenced to publish is a second edition of that book, published under a new title, with additions by Professor Norton of Yale College, adapting the work to this country. In adopting this new title, we have been actuated by a desire to benefit all parties—the patrons of the work, the publishers of the first edition, and ourselves. Although in Great Britain it is called a second edition of the *Book of the Farm*, we are assured by the British publisher, in successive letters received from him, that 'it is so changed, enlarged, and re-arranged, in short so thoroughly rewritten, as to be, in fact, a new book.' * * * 'All discoveries in science, as applied to agriculture, are of recent date, and are but sparingly given in the first edition; whereas in the second, *science*, so

far as it has been made available by *practice*, is brought down to the present time.'

"We feel justified, therefore, in changing the title, because by so doing the public will not be deterred from purchasing the work, through fear of its being a mere copy of an old book, and thus reject what they might otherwise be most happy to procure. We also think the edition of the *Book of the Farm*, already in the market, and the '*Farmers Guide*,' will be less likely to conflict with each other than if both were published under the same title; and hence any injury, either to a brother publisher or to ourselves, by an improper competition, will be avoided."

Of course, much of a work of so comprehensive a character, written by an English agriculturist, must be but little adapted to our climate and practice. Still, there is so much that is important, and, in a degree necessary, for every farmer to know, that it must prove a valuable addition to the library of every individual interested in Agricultural Science. Professor Norton's notes are given at length in the last number, and contain a full review of all the subjects treated upon, with such comments thereon as will elucidate the author's views, and adapt the English practice to American husbandry.

Did our limits allow, we should be pleased to give some extracts from Mr. Stephens's chapter on the manufacture and use of composts. We may do so at length at another time; at present we have only room to give two paragraphs, which may interest those of our readers who think peat and ashes the *universal panacea* :—

"The trouble," says Mr. Stephens, "attending the carting of bog-turf, wheeling it to the side, exposing it to the air to dry, and afterwards burning it to ashes, or carting it away for compost, was much greater than the quantity of ashes, or the quality of the compost obtained, would compensate."

"Two years' labor in the concoction of these materials were sufficient to give me a distaste for the business, and at length I dropped it, and went to the neighboring towns to

purchase street, stable, or cow manure, and bone dust. These never disappointed me, and the eating off the turnips which they raised every year, with sheep, soon put the soil in a fertile state."

This is precisely our experience. We have never found stable manure to fail of producing a vigorous growth. The same money paid in carting peat and ashes back and forth, would, comparatively, ruin a crop, or starve an orchard.

The work will be completed in about 22 numbers, of 64 pages each, illustrated with numerous engravings and drawings on steel, and furnished at the reasonable price of 25 cents per number, or \$5 in advance, for the whole.

MISCELLANEOUS INTELLIGENCE.

ART. I. *General Notices.*

COMMON FLOWERS.—Had we not seen the remarkable collection of Messrs. Vilmorin-Andrieux and Co., we should not have believed that so fine an effect could have been produced by annuals grown, nearly all of them, in the open air. What beautiful effects might be had by means of these common plants, many of which are of our climate, if we could only grow and arrange them with the skill of these gentlemen! Some of the vases in this collection would most certainly not suffer though compared with the most magnificent and attractive objects in the exhibition. The splendid tufts of *Schizanthus Grahamei* and *rubens* will well bear to be compared with any *Pelargonium*, even with the splendid *Reine des Français* which did M. Chauvière such great credit. We appeal to all good judges or men of taste who saw the exhibition, to say whether we are not correct. What could be more graceful than the vases of *Rodanthe Manglesii*, *Encharidium grandiflorum*, *Viscaria oculata*, of *Clarkia*, with its snow white flowers? What more magnificent than the Snapdragon, with its long spikes streaked with yellow and purple, surpassing anything of the sort we ever saw before? Messrs. Vilmorin-Andrieux and Co. have a long established reputation to maintain, and most assuredly it suffered nothing by their last exhibition. Had we more room we should be delighted to describe in detail the numerous species which the clever men in this establishment have placed in the first rank among ornamental plants; we should tarry over the delicate clusters of Grasses grown in pots (*Aira pulchella*, *Stipa pinnata*, *Briza maxima*, *Lagurus ovatus*, &c.,) whose airy, silky, or velvet panicles contrast so well with their hair like foliage; we should speak of those pretty violet-colored composites (*Brachycome iberidifolia*;) of those Everlastings with

their metallic carmine scales; of those dwarf Wallflowers, with their remarkably strange colors given them by consummate skill; but the small space that is left us must be left to other horticulturists.—(*Gard. Chron.* 1850, p. 551.)

CUPHEA PLATYCENTRA.—As a bedding plant this is the best of all the Cupheas. I may say it is second to none of any kind whatever, although there may be many flowers more showy at a distance; but upon closer inspection there is none to be found more interesting, as its white-tipped bright crimson tubular blossoms are very handsome. It also stands rough and stormy weather much better than any of our more cherished flower garden favorites, and blooms well towards the latter end of the year. Its propagation and cultivation are very easy. Cuttings put in the first week in March, in a little bottom heat, will strike freely. When struck they should be potted off singly, and kept in a frame until April, when they should be hardened off, and bedded out the latter end of May, where it will flower beautifully until it is destroyed by frosts.—(*Gard. Jour.*, 1850, p. 664.)

CULTIVATION OF SPECIMEN PLANTS IN 8 INCH POTS.—Some men think that to grow a flowering plant well, it must be planted in a tub, large enough to support a moderate sized tree. Others, that the larger the plant is, the more ramified the branches, and the more numerous the leaves, the nearer it approaches to perfection. Than such notions nothing can be more absurd.

Were our only object, in the cultivation of exotic flowering plants, to be entirely confined to the magnitude of the plant, without regard to the production of bloom, then no other plan could be adopted so likely to secure this end. But as flowering exotics are only valued on account of the splendor and abundance of their flowers, with a proper, not an overwhelming amount of foliage, a very opposite course must be followed to bring about this desired end.

Our mind has been directed for some time to this matter; and, more especially, in reference to specimen plants brought forward for competition. For as we not unfrequently see such plants on our exhibition tables, it looks as if bulk of plant, without reference to quantity or quality of bloom, were the perfection of principle aimed at by their owners, while, we think, that a diametrically opposite standard of perfection ought to be borne in mind—viz., the greatest possible amount of perfect blooms upon the smallest amount of branches, and a well balanced proportion of foliage.

Take, for example, a geranium or pelargonium, (call it which you may,) grow it in a large pot, in rich soil, stimulate it to the fullest extent, and produce a plant half as large as a hay-cock, what is the consequence—an abundance of foliage, and a sad deficiency of bloom, and the majority even of that (anything but perfect,) in proportion to the size of the plant and its means of support. But who highly esteems this bundle of stalks and superfluity of foliage? Not we; and we are not alone in this opinion; an opinion held by all the best judges of what such a plant should be. We are glad to observe that the Horticultural Society of London follows the rule laid down last year by the Caledonian Horticultural Society, namely, of having a class for pelargoniums in 8-inch pots, a size sufficiently large for every useful

purpose, if the necessary conditions of high culture be attended to. And with other than high cultivation Horticultural Societies should have nothing to do. We saw the plants exhibited in that sized pot during the past summer, and although the amount of bloom was somewhat deficient in proportion to what it might, and indeed ought, to have been, from the size of the plants, it was sufficiently obvious to any one conversant with the matter, that if plants of the size brought forward could be grown in eight-inch pots, that there were only one or two steps further wanting to render them perfection itself, so far as the growth of the plant is concerned, namely, a much greater number of flower trusses, and those larger and possessed of more body in the petals. To effect this, the point to be aimed at is the encouragement of a dwarfer habit of growth, with shorter jointed stems, without the least addition to the size of the plant, or the number of their leaves, which would render the whole plant sufficiently strong, so that it should be able to support itself almost, if not entirely, without stakes.

We hold, therefore, that 8-inch pots should be regarded as the maximum size for one class at least, and that the cultivator, instead of seeking a larger pot, or a larger plant, should set his wits to work (for the thing is quite possible) to double the number of flower trusses, to bring them more true to character, and to give the individual flowers more size and consistency, or thickness of petal. We will not refer to the form of the flower, or to the arrangement of its coloring, but we would impress on those members of Horticultural Societies, having the drawing up of the programmes for the ensuing year, to hold fast by the doctrine of medium sized pots, and wait the result of superior culture in them. To do otherwise, would be to retrograde instead of to advance, by giving up a principle not yet fully completed, and possibly only requiring another year's trial to bring to full maturity. There are many other reasons for doing this, which we may allude to at a future time, for although our opinions may be unheeded in this matter, we think we have high authority for urging it on, seeing that the most influential of all Horticultural Societies follows it. This same society, has, by the way, this year, for the first time, a class for the azaleas, &c., limited as to size of pot. This is following the idea of the Caledonian Horticultural Society in some measure, who, last season, gave prizes for ericas restricted as to height of plant, for the purpose we presume, of encouraging growers, whose plants were in progress towards a size, which would enable them to compete in the highest class. We are glad to see that our principal society has proved itself in advance in this particular.

We have heard a great deal of high farming of late; let us not only hear of, but see a little more high culture in plants brought for public competition; and as one part of high farming is the production of the greatest possible amount of produce from the smallest space of ground, so also in like manner, should high plant culture be regarded.—(*Gard. Journal*, 1850, p. 585.)

[We particularly commend these remarks to our amateur cultivators and to the attention of the Committee for establishing Premiums by the Massachusetts Horticultural Society, in making up their schedule for 1851. They

express our views on the absurdity of growing plants as big as a hoghead.
—*Ed.*]

ART. II. *Massachusetts Horticultural Society.*

Saturday, August 24. Exhibited.—**FLOWERS:** From Hovey & Co., P. Barnes, Breck & Co., J. Nugent, J. Hovey, L. Davenport, Winship & Co., Mrs. E. Bass, Miss Kenrick, Miss Russell, A. Bowditch, and T. Needham, dahlias, roses, cut flowers, &c.

GRATUITIES AWARDED.

To A. Bowditch, P. Barnes, Breck & Co., T. Needham, L. Davenport, Miss Kenrick, Miss Russell, J. Hovey, T. Nugent, and Winship & Co., \$1 each.

FRUITS: From J. Washburn, Manomet apples, large, beautiful and fine. From C. E. Grant, blackberries, fine. From M. P. Wilder, Bloodgood and Belle d'Aout pears and De Montfort plums. From S. Sutton, Washington plums. From G. Merriam, fine blackberries. From F. King, apricots, fine. From A. D. Weld, fine Williams' apples. From F. Dana, New Seedling pears and Orange Sweet apples. From A. D. Williams & Son, handsome Williams' and Red Astrachan apples, and Italian Damask and Prince's Gage plums. From J. Gordon, Williams' apples. From Jos. Lovett, Jargonelle, Bloodgood, and Dearborn's Seedling pears, and fine blackberries. From E. M. Richards, Benoni, Williams', and Sugar-loaf Pippin apples, and Christiana melons. From Breck & Co., Summer Francreal and Belle d'Aout pears. From O. Johnson, superior Red Astrachan and Bough apples; Early Newington nectarines, Black figs, Fotheringham plums, White Dutch currants, blackberries, and raspberries.

From Hovey & Co., fine Jargonelle, Summer Francreal, Truckhill Bergamot pears; White Frontignan, Muscat of Alexandria, and Macready's Early White grapes. From H. Vandine, Yellow Gage, Royal Hative, Italian Damask and Yellow Honey plums. From C. Newhall, Benoni and Early Strawberry apples. From C. P. Cowles, Syracuse, N. Y., Rough and Ready apples.

Fruits tested by the committee: apples, from C. P. Cowles, a New Seedling, called Rough and Ready, promises to rank with the best early apples. Manomet Sweet apples, from J. Washburn, fine. A Seedling pear, from F. Dana, of rich musk flavor, and promises well. De Montfort plums, from Col. Wilder, of a delicious flavor. Macready's Early White grapes, from Hovey & Co., fine.

August 31. An adjourned meeting of the Society was held to-day,—the President in the chair.

Communications from the Essex Institute, the R. I. Hort. Soc., and the West Chester Hort. Soc. were read, inviting delegates to attend their exhibitions.

S. Walker, C. M. Hovey, O. Johnson, and Jos. Lovett were appointed to

attend the Essex Institute; E. M. Richards, B. V. French, and C. Newhall, the R. I. Hort. Soc.; and J. S. Cabot, the West Chester Hort. Soc.

A communication was received from the Wilmington Hort. Soc., Delaware, informing the Society that delegates had been chosen to attend the annual exhibition of this Society.

[The following gentlemen were elected members, at the meeting August 17: W. L. Nichols, Roxbury, and William Johnson, Boston.]

Exhibited.—**Flowers:** From the President, a fine collection of Seedling phloxes, one a delicate white, very pretty. From P. Barnes, a variety of flowers, among which were the following new dahlias:—*Boule de Feu*, Mr. Seldon, *Gloriosa*, *Striata perfecta*, &c. From Mrs. Winchester, by J. W. Brown, a fine display of asters, dahlias, &c. Cut flowers, in variety, were also sent by Breck & Co., J. Nugent, A. Bowditch, Mrs. E. A. Story, Winship & Co., L. Davenport, I. Spear, Miss M. A. Kenrick, E. Winslow, J. Hovey, George Walch, W. H. Foster, Miss Russell and others.

GRATUITIES AWARDED.

To P. Barnes, Breck & Co., Winship & Co., J. Nugent, A. Bowditch, J. W. Brown, J. Hovey, Mrs. E. A. Story, L. Davenport, Miss Russell, and Miss M. A. Kenrick, \$1 each.

Fruits: From B. V. French, Cabashea and Garden Royal apples. From A. D. Weld, Williams' apples, very fine, and several sorts of pears. From A. Dexter, Bartlett pears and Deacon apples. From O. Johnson, Bough apples, fine, and Bloodgood, Dearborn's Seedling, and Rostiezer pears. From E. M. Richards, fine apples. From J. Washburn, Manomet apples, very fine, and Watson, Summer Rose, and other pears. From J. Hyde & Son, an apple, supposed a seedling. From Jos. Lovett, Williams' apples, fine. From A. Parker, Harvard and Bartlett pears. From E. Bemis, Winship's Seedling pears. From P. Barnes, fine *Beurré d'Amalis* pears. From Jos. Stickney, very fine Summer Francreal pears. From M. P. Wilder, Summer Francreal, Striped Summer Francreal, and other sorts of pears. From Messrs. Winship, Winship's Seedlings. From J. S. Sleeper, Summer Rose pears. From F. King, *Julienne* pears, fine. From Hovey & Co., a new native pear, very handsome and fine; Summer Francreal, *Julienne*, Orange Musqué, (?) and other pears, and several kinds of grapes, fine.

Fruits tested by the Committee, August 31st.—From Hyde & Son, an apple, supposed a seedling, similar to the Williams. *Duchess* of Oldenburg, from J. M. Earle; brisk, lively flavor, good size, and handsome. From E. F. King, *apricots*, supposed to be a seedling, resembling the Orange. A small plum, from J. S. Sleeper, handsome, and of pleasant flavor. *Black Imperial*, known also as the *Bradshaw*, from S. Hill, a large, handsome, and fine early plum. *Blue Gage*, from O. Johnson, excellent. A small blue plum, from the President, (unnamed,) fine flavor. *Belle de Feron* pear, from Col. Wilder, poor. *Limon* pear, from J. M. Earle, good. *Gustin's Summer*, not in eating.

From Hovey & Co., a new native pear, of good size, fair and handsome;

of a brisk, vinous, saccharine flavor, fully equal to the Urbaniste, in its best condition, and one of the very finest early pears.

PREMIUMS AWARDED FOR FRUITS.

SUMMER APPLES.—For the best Summer apples, (Red Astrachan,) to O. Johnson, \$6.

For the second best, (Williams'), to A. D. Williams & Son, \$4.

SUMMER PEARS.—For the best Summer pears, (a new native variety,) to Hovey & Co., \$6.

For the second best, (Madeleine,) to Jos. Stickney, \$4.

CURRENTS.—For the best specimen, (White Dutch,) to Geo. Wilson, \$5.

For the second best, (Red Dutch,) to O. Johnson, \$3.

RASPBERRIES.—For the best, to Capt. J. Lovett, for Knevet's Giant, \$5.

For the second best, to Capt. Lovett, for the Fastolf, \$3.

BLACKBERRIES.—For the best, to Capt. Lovett, \$5.

For the second best, to C. E. Grant, \$3.

GOOSEBERRIES.—For the best, to Capt. Lovett, for the Roaring Lion, \$5.

For the second best, to J. Hovey, for the Whitesmith, \$3.

A GRATUITY of \$3 to Dr. S. G. Howe, for a fine exhibition of different sorts.

September 7. An adjourned meeting of the Society was held to-day,—the President in the chair.

The Vice Presidents were appointed a committee to receive delegates attending the annual exhibition.

Adjourned one week, to September 14th.

Exhibited.—**FLOWERS:** From the President of the Society, J. Nugent, Hovey & Co., P. Barnes, Breck & Co., T. Needham, and others, cut flowers, bouquets, &c.

GRATUITIES AWARDED.

To L. Davenport, for fine roses, \$2.

To P. Barnes, Breck & Co., J. Nugent, Winships, Mrs. Story, Miss Kenrick, Miss Russell, J. Hovey, and A. Bowditch, \$1 each.

FRUITS: From O. Johnson, Summer Francreal, and one kind of pears unnamed; very fine Green Gage, Washington, Cooper's, Imperial Gage, and Bradshaw plums. From S. H. Perkins, splendid specimens of Lewis nectarines. From G. Merriam, Bartlett pears. From P. Barnes, Beurré d'Amalis pears. From C. E. Grant, Coolidge's Favorite peaches, and fine blackberries. From Winship & Co., Golden Beurré of Bilboa, Belle et Bonne, Hessel, Belle Lucrative, and other pears. From R. Crooker, Diamond plums. From E. Bemis, Beurré d'Amalis and Bartlett pears. From A. Parker, Chelmsford, Andrews and Bartlett pears. From J. Mann, a basket of pears, plums, peaches, &c. From J. H. Blake, plums, unnamed. From E. Wight, Orange Sweeting apples, Julienne pears, and the following plums:—Nectarine, Jefferson, Red Perdrigon, Egg, Cooper's, (?) and Royale. From L. R. Mears, Seedling peaches. From W. W. Merrill, Washington plums. From A. Dexter, Deacon (?) apples and Bartlett pears.

From James Nugent, Imperial Gage plums. From Geo. Walsh, White Gage, Bradshaw, Imperial Gage, and fine Green Gage plums; Bartlett pears, and apples. From W. C. Strong, Roman, Elruge, Newington, Lewis, and 3 other sorts of nectarines; Coe's Golden Drop plums, 8 sorts of grapes, and Coolidge's Favorite peaches. From S. Driver, pears for a name.

From Hovey & Co., Thomas, McLaughlan, and 2 other plums; Cannon Hall Muscat grapes; Black figs, and pears, viz., Summer Bergamot, Vallee Franche, Inconnue Cramoisine, Summer Francreal, Hessel, Colmar d'Été, Dearborn's Seedling; also, Beechwood and Persian melons. From E. M. Richards, Walpole and Haley's Nonsuch apples. From J. A. Kenrick, Early Crawford and Coolidge's Favorite peaches. From Jos. Lovett, fine Green Gage plums, and blackberries. From A. Lackay, fine Green Gage and Cooper's plums. From W. G. Lake, several varieties of apples and pears. From J. F. Allen, Summer Francreal pears. From H. Vandine, Huling's Superb, Columbia, Bradshaw, and four other sorts of plums; four kinds of pears, and Williams' apples. From J. H. Welch, fine specimens of Tyson pears; from A. D. Webber, melons.

Fruits tested by the committee: Beechwood melons, from Messrs. Hovey & Co., fine.

September 14. An adjourned meeting of the Society was held to-day, the President in the chair.

It was *voted*, that the President, Corresponding Secretary, and Recording Secretary be a committee to prepare tickets for invited guests.

Adjourned one week, to September 21st.

Exhibited.—**FLOWERS**: The exhibition of German asters, for premium, took place to-day, and the display was exceedingly fine; but, owing to a vote of the Society to close the hall, it was understood by some that the exhibition was postponed; in consequence of this, Messrs. Hovey & Co. entered their flowers too late for premium. The contributors were L. Davenport, I. Spear, and J. Nugent.

AWARD OF PREMIUMS.

GERMAN ASTERS.—For the best display, a premium of \$4, to I. Spear.

For the second best, \$3, to J. Nugent.

For the third best, \$2, to L. Davenport.

September 17, 18, 19, and 20. The **TWENTY-SECOND ANNUAL EXHIBITION OF THE SOCIETY** took place on Tuesday, Wednesday, Thursday, and Friday, the 17th, 18th, 19th, and 20th of September. On this occasion, to accommodate the increasing contributions of the members, the whole of the Society's building was put in requisition. The store occupied by Mr. Bowditch and the library room were cleared, and fitted up with tables, for fruit and vegetables. In the hall two tables were put up, whose combined length was one hundred and fifty feet. These were wholly filled with the pears and grapes; the apples, plums, peaches, &c., occupied the central tables below, and the vegetables filled the side stands. The entrance to the hall was through an arch, open on three sides, deco-

rated with evergreens, and surmounted with the inscription "Twenty-second Annual Exhibition of the Massachusetts Horticultural Society."

The show of plants and flowers was rather small, owing to the limited space, but those exhibited were principally specimens of great beauty—the most prominent ones were *Schubertia graveolens*, two *clerodendrons*, *Abelia rupestris*, and several fine fuchsias, and other plants, from Messrs. Hovey & Co., and a few orchids, from J. A. Lowell. The flower stands were filled with roses, asters, and dahlias. Some of the large bouquets were very fine, and a few small floral ornaments added to the appearance of the display.

The exhibition of fruit was, we hesitate not to say, by far the most extensive and choice ever made, either at home or abroad. The pears were not only shown in large variety, but many of the specimens were larger and more beautiful than any heretofore exhibited. We have only room to particularize a few of the more remarkable,—these were the Doyenné Boussock, from W. Davis; the Beurré Diel, from W. Bacon; the Van Mons Leon le Clerc, of Mr. Wilder; the Swan's Orange and Beurré d'Anjou, of Messrs. Hovey; the former of which were fully equal in size and beauty to the Rochester specimens exhibited in 1848 and 1849: the Louise Bonne of Jersey, of Mr. Bemis; the Golden Beurré of Bilboa, of Messrs. Richards and Fay; the Andrews, of Messrs. Crafts & Dana; and the Bartlett, from Mr. MacIntyre, ninety of which, from one small tree, filled a large basket. The apples were very fine, especially the collection of Mr. French, which was, of itself, a good exhibition, containing upwards of one hundred and forty kinds, some of them very large and handsome. Grapes were poorer than usual, owing to the cool summer, and but few of those exhibited were fully colored or ripened.

PLANTS.—From Messrs. Hovey & Co., a large collection, among which were *Schubertia graveolens*, *Clerodendron infortunatum* and *squamatum*, *Plumbago larpendæ*, *Rondeletia speciosa*, *Abelia rupestris*, *Russellia juncea*, *Cùphea platycentra*; six or eight kinds of fuchsias, achimenes of all sorts, &c. From M. P. Wilder, the beautiful new *Achimenes gloxiniflora* and insignis. From J. A. Lowell, a collection of plants, among which were several orchids.

DAHLIAS, ASTERS, CUT FLOWERS, &c.—From Breck & Co., dahlias, and other flowers. From Hovey & Co., 2 large bouquets, for the Bradlee vases; 2 parlor bouquets, German asters, and 20 var. of verbenas. From J. Nugent, 2 bouquets, for the Society vases; 2 parlor bouquets, and cut flowers. Other contributors were, O. N. Towne, A. Bowditch, Miss Russell, Miss L. A. Kingsley, J. Hovey, J. Black, C. A. Hewens, I. Spear, L. Davenport, P. Barnes, Winship & Co., T. Owens, H. Grundel, and others. Mrs. William Kenrick sent two lyres, in different styles, neatly made; and Mrs. E. A. Story a floral grotto.

PREMIUMS AND GRATUITIES AWARDED FOR FLOWERS, &c.

PLANTS IN POTS.—For the best display, of not less than 20 pots, to Hovey & Co., \$12.

For the second best, to M. P. Wilder, \$10.

For the third best, to T. Owens, \$8.

VASE BOUQUETS.—For the best pair, for the Bradlee vases, to Hovey & Co., \$10.

For the second best, to John Black, \$8.

For the best pair, for the Society's vases, to J. Nugent, \$10.

For the second best, to Winship & Co., \$8.

PARLOR BOUQUETS.—For the best pair, to Jas. Nugent, \$8.

For the second best, to Hovey & Co., \$6.

GRATUITIES.—To Mrs. W. Kenrick, for two floral lyres, \$5.

To Mrs. E. A. Story, for a floral grotto, \$5.

To Miss Russell, for bouquets, \$3.

To O. N. Towne, for bouquets, \$2.

To P. H. Pierce, for bouquets, \$2.

To A. Bowditch, for bouquets, \$2.

To Miss L. A. Kingsley, J. Hovey, and L. Davenport, for bouquets, \$1 each.

FRUITS.—From the President of the Society, 112 varieties of pears, among which, in addition to the older sorts, were the *Beurré Goubault*, *B. Langelier*, *B. Triquier*, *Bordenave*, (Smith's,) *Bonne de Zees*, *Broom Park*, *Charlotte de Brower*, *Champagne*, *Colmar d'Ete*, *Delices de Jodoigne*, (?) *Duchesse of Orleans*, *Episcopal*, *Figue*, *Gendesheim*, *Hobson*, *Hull*, *Lawrence*, *Monarch*, *McLaughlin*, *Oliver's Russet*, *Oswego Beurré*, *Quilletette*, *Swan's Orange*, *Sabine d'hiver*, *St. Mesmire*, *Souverain d'Ete*, *Tyson*, *Van Mons Leon le Clerc*, *Wilbur & Williams' Early*; also, one variety of plums, without name.

From M. P. Wilder, 210 varieties of pears, among which, in addition to the older sorts, were *Abondance*, *Angleterre Noisette*, *Adele St. Denis*, *Belle Craonaie*, *Benoita*, *Belle de Trois*, *Beurré d'Anjou*, *B. de Waterloo*, *B. Coloma*, *B. Goubault*, *B. de Rouineau*, *B. Langelier*, *B. du Rhine*, *B. de Nerckman*, *B. Sterkman*, *B. Judea*, *B. Cornu*, *B. Seutin*, *B. Derminer*, *B. Clair*, *Blanc de Carney*, *Bois Napoleon*, *Beurré Grand Montrouge*, *Barnadiston*, *Bezi de Veterans*, *B. de Malines*, *Brougham*, *Beau present d'Artois*, *Baronne de Meilo*, *Cadet de Vaux*, *Comte de Frittily*, *Calhoun*, *Colmar d'Ete*, *Chas. Van Mons*, *Clay*, *Cent Couronne*, *Conseiller Ramuez*, *Charlotte de Brower*, *Duchesse of Orleans*, *Dallas*, *Doyenné Goubault*, *D. Sterkman*, *D. de Nerckman*, *De Lepine*, *Elizabeth*, (Edwards's,) *Edwards's Summer*, *Exquis*, *Francis*, (Edwards's,) *Fondante de Malines*, *Fondante de Charneuse*, *F. de Millot*, *Ferdinand de Meester*, *Grand Bretagne*, *Grand Soliel*, *Grain de Coral*, *Gris de Rouchard*, *Howell*, *Hericart*, *Inconnue Van Mons*, *Jalousie Nouvelle*, *Jalvie*, *Knight's R. I. Seedling*, *Las Canas*, *Lawrence*, *Moccas*, *Monarch*, *McLaughlin*, *Napoleon d'hiver*, *Nouveau Poiteau*, *Nov. Simon Bouvier*, *Oliver's Russet*, *Parisielle*, *Poire de Jacob*, *Princess Royal*, *Passe Jardine*, *Rameaux*, *Rondelet*, *Sabine Nouvelle*, *Sansparielle*, *St. Michael Archangel*, *St. André*, *Swan's Orange*, *St. Bernard*, *St. Quentin*, *Serrurier*, *Tea*, *Tarquin de Pyrenees*, *William Prince*, *Wescott*, &c.

From the Pomological Garden of R. Manning, 110 varieties of pears.

among them the Lawrence, Duchesse of Orleans, Comte Lelieur, March Bergamot, Moccas, Monarch, Petre, Shobden Court, Howell, Henkel, Doyenné Goubault, Styrian, Wilbur, Dallas, Serrurier d'Automne, Coter, Whitfield, Henrietta, Locke, Jubin, Walker, Rameaux, Clara, Nouveau Poiteau, Brande's St. Germain, Henri Van Mons, Wendell, Nos. 982, 1036, 1434 V. Mons, &c.; also, 25 varieties of apples.

From Hovey & Co., 100 varieties of pears, among which, in addition to older kinds, were Swan's Orange, Monarch, Hull, Beurré d'Anjou, Jersey Gratioli, Beurré Quentin, B. Seutin, B. Goubault, Hill's Fall Butter, Colmar d'Été, Truckhill Bergamot, Sargeret, (V. M.) Inconnue Van Mons, Styrian, Inconnue Cramoisine, Las Canas, Duchesse of Orleans, Beurré Langelier, Episcopal, Belle Craonaise, Belle de Noel, Downton, Doyenné Santelete, Doyenné Boussock, Henkel, Lawrence, St. Michael Archangel, Louis d'Orleans, Nouveau Poiteau, (?) Belle de Thouars, Guernsey Beurré, Welbeck Bergamot, Oliver's Russet, Cabot, St. Dorothee, Whitfield, Poire Devack, Bergamot Leseble, &c., &c.; also, Hornead Pearmain, and 7 other sorts of apples; Purple Favorite, Thomas, and 3 other kinds of plums; 5 kinds of peaches, and the following grapes:—Cannon Hall Muscat, Muscat of Alexandria, Tottenham Park Muscat, Grizzly Froftigman, Black Hamburg, Wilmot's B. Hamburg, Black Prince and Syrian.

From J. S. Cabot, 86 varieties of pears, among them the Hericart, Boucquai, Columbia, Duvier, Notaire Minot, Doyenné Boussock, Celestin, Belle Excellent, Josephine de Malines, Navez, Beurré Goubault, Bergamot Libbittent verte, Plombgastel, Las Canas, Chartreuse, Fondante de Malines, Vesouvière, Belle Craonaise, Cabot, Welbeck Bergamot, St. André, Pennsylvania, Capucin V. M., Payency, Van Buren, Dallas, Brande's St. Germain, Nouveau Poiteau, Wilbur, Rameaux, &c., &c.

From B. V. French, 85 varieties of pears, containing, besides the well-known sorts, the Beurré Duval, Boucquia, Beurré Goubault, Beurré gris d'hiver, Duchess of Orleans, Stevens's Genesee, Sabine, Edwards's Elizabeth, and 20 unnamed; also, 141 varieties of apples, among them the Ladies' Sweet, Ross Nonpareil, Esopus Spitzenberg, Ribston Pippin, Fameuse, Pomme Gris, Gravenstein, Lyscom, Peck's Pleasant, Garden Royal, Fall Harvey, 20-Ounce, Hartford Sweet, Jonathan, Minister, Seek-no-Further, Alexander, Drap d'or, Lucombe's Seedling, Melvin Sweet, Mexico, Holmes, Canada Reinette, Newark King, Wellington, Ortleigh, Mela Carla, Hawthorndean, Wine, Ramshorn, Long Nonsuch, Jericho, and 25 unnamed.

From Breck & Chamberlain, 44 varieties of pears, among them the Bonne de Zees, Beurré Bruneau, B. Boreal, Colmar Nelis, Vicomte de Spoelberch, Duchesse d'Angouleme panaché, Doyenné Goubault, Figère, Payency, Sabine, Swan's Orange, &c.

From Jos. Lovett, 43 varieties of pears, among them Cranston Seedling, King Edward, Tyson, Van Mons Leon le Clerc, Beurré Goubault, Paradise of Autumn, Queen of the Low Countries, Swan's Orange, Columbia, Amandes Double, Boucquia, Pennsylvania, &c.; also, Minister, Porter, Fameuse, and Cabashee apples, and Yellow Magnum Bonum plums.

From O. Johnson, 36 varieties of pears, among which were the Beurré

d'Anjou, Van Mons Leon le Clerc, Hericart, Welbeck Bergamot, Fortunée, &c., &c.

From John Gordon, 36 varieties of pears, including the Queen of the Low Countries, Winter Nelis, Stevens's Genesee, Hill's Fall Butter, Swan's Orange, Beurré Bosc, &c.; also, Sharp's Emperor, Jefferson, and 3 other plums, and Black Hamburg and White Frontignan grapes.

From Winship & Co., 35 varieties of pears, including the Oregon (Seedling,) Triumph de Louvain, Pain et Vin, Baronne de Mello, Reiné d'hiver, Bergamot Sargeret, Sargeret, De Lepene, Beurré St. Nicholas, Fortunée, &c.; also, Cathed and Grand Sachem apples.

From Jos. Stickney, 32 varieties of pears, including Coffin's Virgoulouse, Columbia, Sieulle, Dunmore, Truckhill Bergamot, Colmar Niel, Beurré gris d'hiver Nouveau, &c.; also, 16 varieties of apples, among them the 20-Ounce, Minister, Esopus Spitzenberg, Ribston Pippin, Seaver Sweet, Hub. Nonsuch, &c.

From John Washburn, 31 varieties of pears, among which were the Thompson, Oswego Beurré, Swan's Orange, Dunmore, Knight's R. I. Seedling, Doyenné Boussock, Doyenné Goubault, Beurré Goubault, Cabot, Edwards's Elizabeth, Lawrence, Beurré d'Anjou, Fondante de Malines, &c.; also, Holmes, Minister, and Hubbardston Nonsuch apples, and Coe's Golden Drop plums.

From H. Vandine, 30 varieties of pears, including Stevens's Genesee, Van Mons Leon le Clerc, Prince's St. Germain, &c.; also, 15 kinds of plums, among them, Hulings's Superb, Sharp's Emperor, Coe's Golden Drop, Duane's Purple, Imperial Gage, &c.; Porter apples, persimmons, and peaches.

From G. R. Russell, 12 varieties of pears; 12 varieties of apples, among them the Monmouth Pippin, and Peck's Pleasant; also, 11 varieties of grapes, including the Muscat of Alexandria, Wilmot's Black Hamburg, Syrian, Frankindale, Red Chasselas, White Nice, Grizzly, and White Frontignan, &c.

From R. Crooker, 27 varieties of pears, including Swan's Orange, Doyenné Boussock, Beurré Goubault, Colmar d'Aremberg, Doyenné Goubault, Van Mons Leon le Clerc, Jalousie de Fontenay Vendee, &c., &c.

From A. D. Williams & Son, 35 varieties of pears, among them, the Williams's Early, Belle Lucrative, Andrews, Beurré d'Aremberg, and several unnamed; also, 40 varieties of apples, many of them unnamed.

From A. A. Andrews, 20 varieties of pears, among them, the Triumph de Jodoigne, Fulton, Colmar d'Aremberg, Van Mons Leon le Clerc, Bon Chretien Fondante, &c.; also, 4 varieties of apples and pears, unnamed.

From E. M. Richards, 12 varieties of pears, and 17 varieties of apples, among the latter, the Minister, Fameuse, Lyscom, Walpole, Tewksbury W. Blush, Fall Pippin, &c.; 5 varieties of peaches; Jefferson plums, and Christiana Melons. From J. A. Hall, Raynham, 13 varieties of peaches, 9 var. of apples, and 4 of pears. From Z. L. Raymond, Bartlett pears. From Dr. N. Durfee, Fall River, Muscat of Alexandria, St. Peter's, Syrian, Tokay, (?) White Frontignan, and Black Hamburg grapes. From W. C.

Strong, Lombardy, M. of Alexandria, St. Peters, Grizzly, and White Frontignan, and 5 other sorts of grapes; Roman and Elruge nectarines, Snow peaches, Le Curé pears, and one var. of plums. From W. S. Lake, 23 varieties of apples, 4 of plums, 10 of peaches, 2 of grapes, and 18 of pears. From A. Lackay, 7 varieties of plums, among them the Coe's Golden Drop, Jefferson, and Corse's Field Marshal; 8 varieties of pears, and Benoni apples.

From N. Stetson, 7 varieties of grapes, including the Cannon Hall Muscat, Muscat of Alexandria, Victoria, Wilmot's B. Hamburg No. 16, &c.; 5 varieties of pears, fine Early Crawford peaches, and apples. From A. D. Weld, 20 varieties of apples, 24 var. of pears, (17 unnamed,) and 3 sorts of peaches. From A. Dexter, 15 varieties of pears, 7 var. of apples, and 3 of peaches. From L. Fay, 15 varieties of pears. From J. W. Rogers, 6 varieties of pears. From Messrs. Stone & Co., Newton, 11 var. of apples, 3 of pears, and 2 of grapes. From Geo. Wilson, fine Gansell's Bergamot, Paradise of Autumn, Chaumontelle, and Beurré Diel pears. From W. J. Niles, 4 varieties of pears. From W. Bacon, very fine Beurré Diel pears. From Francis Geo. Shaw, Black Hamburg, White Muscadine, and Red Chasselas grapes, raised on Mr. Crawshaw's plan, detailed in our *Magazine*, (Vol. IX, p. 86 to 96.) [These were excellent.]

From Samuel Downer, Jr., 16 varieties of pears, among them very fine Columbia, Passe Colmar, Andrews, Easter Beurré, Le Curé, Urbaniste, &c. From A. Parker, 11 var. of apples and 2 of pears. From John Dane, fine Early Crawford peaches. From B. F. Nourse, Bangor, 12 var. of plums, among them fine Jefferson, Washington, Purple Favorite, Reine Claude de Bavay, Columbia, &c. From B. Hemmenway, Early Crawford peaches. From J. Allen, Doyenné Boussock pears. From J. Hooper, Jr., 3 var. of pears. From J. Mann, fine Beurré Bosc, and 2 other sorts of pears. From J. N. Turner, peaches. From M. H. Simpson, Black Hamburg grapes, growing on the plant, and Wilmot's Black Hamburg. From J. A. Kenrick, 6 varieties of pears, 4 of apples, and Lemon Rareripe (?) peaches. From W. A. Crafts, 7 varieties of pears and 2 of peaches. From F. Marsh, Dix pears. From J. W. Foster, Baldwin apples, and Dolbear peaches. From W. B. Kingsbury, Merriam pears, and Dutch Codlin apples. From G. Merriam, fine Early Crawford peaches.

From Jas. Eustis, 27 varieties of apples, among them the Ben, Gravenstein, Golden Ball, Jewett's Red, Kilham Hill, Minister, Boxford, &c. From J. A. Lowell, Muscat of Alexandria, and 2 other sorts of grapes. From J. B. Moore, Concord, 15 varieties of apples, 2 of pears, and fine Long Carolina, Mountain Sweet, and Black Spanish Watermelons. From F. Dana, Andrews, Beurré d'Amalis, Louise Bonne of Jersey, and 3 Seedling pears; also, 3 sorts of peaches. From H. B. Stanwood, 3 varieties of pears, and 2 of apples. From S. Driver, 11 varieties of pears, one of them unnamed, supposed to be new. From C. N. Brackett, 4 varieties of pears. From A. D. Webber, 10 varieties of pears, and fine Citron melons. From D. H. Richards, fine Golden Beurré of Bilboa pears. From Geo. Walsh, 7

var. of pears, 7 of apples, and 4 of plums. From W. Hewens, 6 var. of pears, and Seedling peaches.

From H. Vail, Troy, N. Y., White Doyenné, Gansell's Bergamot, Bartlett, and Duchess of Angouleme pears. From N. Harris, Brookline, 6 varieties of pears, 3 var. of peaches, and grapes without name. From E. Tufts, fine Tufts, R. I. Greening, Rox. Russett, Baldwin, and a Seedling variety of apples. From W. Lewis, nectarines. From R. Bartlett, Lynn, Lombard plums and Seedling peaches. From E. Bemis, splendid Louise Bonné of Jersey pears. From J. W. Gates, Cambridge, fine Early Crawford peaches. From B. Wheeler, Framingham, 4 varieties of peaches. From S. L. Goodale, Saco, 3 var. of pears. From W. May, oranges. From S. B. Morse, peaches. From Mrs. F. B. Durfee, a fine cluster of Muscat of Alexandria grapes. From E. Winslow, 5 varieties of apples. From E. Sanborn, Andover, figs, open culture. From J. H. Lord, a basket of assorted fruit.

From T. Needham, 12 varieties of grapes, among them the Cannon Hall Muscat, M. of Alexandria, De la Palestine, (30 inches long,) St. Peters, Chasselas Musqué, &c.; also, Louise Bonne of Jersey pears. From J. Hyde & Son, 2 varieties of pears, 8 of apples, and Early Crawford peaches. From Samuel Sweetser, 8 varieties of pears, and 4 of plums. From J. H. Fearing, Duane's Purple plums. From E. T. Andrews, Seedling peaches. From Mrs. Dudley, 3 dishes of pears. From C. E. Grant, 6 varieties of pears, and 5 of peaches. From L. Baldwin, nectarines, Snow peaches, (?) and Louise Bonne of Jersey pears. From A. Pope, 2 baskets of apples, unnamed.

PREMIUMS AND GRATUITIES AWARDED FOR FRUIT.

APPLES.—For the best 12 varieties, of 12 specimens each, to B. V.

French, the Society's plate, valued at \$20.

For the second best, to A. D. Williams & Son, \$12.

For the third best, to Jas. Eustis, \$8.

For fine collections, of 12 varieties, a gratuity of the Society's silver medal, to J. B. Moore, Jos. Stickney, G. R. Russell, and A. D. Weld.

For the best dish of apples, a premium of \$6, to E. Tufts, for the Tufts.

For the second best, to E. Tufts, \$4, for the R. I. Greening.

For a fine dish of apples, a gratuity of the Society's silver medal, to each of the following gentlemen:—A. Pope, for variety unknown; H. B. Stanwood, Cathead; W. B. Kingsbury, Dutch Codlin; John Washburn, Hubbardston Nonsuch; A. Dexter, Deacon; Messrs. Winship, Cathead; Capt. Lovett, Minister; Hovey & Co., Baldwin.

PEARS.—For the best 12 varieties, of 12 specimens each, the Lyman plate, to M. P. Wilder, valued at \$20.

For the second best, to Hovey & Co., \$12.

For the third best, to John Gordon, \$8.

For fine collections, of 12 varieties, a gratuity of \$8 each, to J. S. Cabot, O. Johnson, and Jos. Lovett.

For a collection of pears, a gratuity of the Society's silver medal, to J. Washburn and S. Downer, Jr.

For the best dish of pears, a premium of \$6, to Wm. Davis, for the Doyenné Boussock.

For the second best, \$4, to J. Mann, for the Beurré Bosc.

For a fine dish of pears, a gratuity of the Society's silver medal, to each of the following gentlemen:—W. Bacon, for Beurré Diel; Andrew Lackay, for Belle Lucrative; D. H. Richards, for Golden Beurré of Bilboa; Wm. Crafts, for Andrews; Jos. Stickney, for Catillac; Hovey & Co., for Beurré d'Anjou; Geo. Wilson, for Paradise d'Au-tonne; and E. Bemis, for Louise Bonne of Jersey.

For a splendid basket of Bartlett pears, a gratuity of \$6, to Jas. Mac-Intyre.

For single dishes of pears, the Society's bronze medal, to A. Parker, A. A. Andrews, I. Fay, and S. Driver.

GRAPES.—For the best specimens, a gratuity of \$10, to Hovey & Co.

For the second best, a gratuity of \$7, to G. R. Russell.

For fine specimens, the Society's silver medal, to N. Stetson, Dr. N. Durfee, B. D. Emerson, W. C. Strong, and T. Needham.

For a fine bunch of Muscat of Alexandria, the bronze medal, to W. Young, Fall River.

PEACHES.—For the best specimen, a premium of \$8, to G. Merriam, for the Early Crawford.

For fine specimens, the Society's bronze medal, to N. Stetson, John Dana, and T. Owens.

PLUMS.—For a large collection, a gratuity of the Society's silver medal, to B. F. Nourse.

For fine specimens, a gratuity of the bronze medal, to A. Lackay, Jos. Lovett, Hovey & Co., and H. Vandine.

WATERMELONS.—For fine specimens, the bronze medal, to J. B. Moore.

GRAPE VINE.—For a fine plant of the Black Hamburg grape, growing in a pot, the Society's silver medal, to M. H. Simpson.

VEGETABLES.—The room which our report of the exhibition occupies, prevents us from giving a detailed account of the vegetable department, and we therefore copy the entire official report of the committee:—

We regret to say, that the exhibition of vegetables was rather meagre, notwithstanding the important place which their cultivation holds in horticulture. The specimens which were exhibited, however, were almost universally excellent of their kind. The show of potatoes, which in former years has been very fine, was miserable, on account of the disease. The Society having made great preparation to show this part of the exhibition, do hope to see in another season a much greater display of vegetables.

PREMIUMS AND GRATUITIES AWARDED FOR VEGETABLES.

PREMIUMS.—To A. D. Williams, for best display and greatest variety, \$10.

- To A. Parker, for second best display and greatest variety, \$6.
GRATUITIES.—To A. Hatch, for Seedling potatoes, \$3.
To Lyman Kinsley, for a good show of vegetables, \$3.
To John Gordon, for a fine show of vegetables, \$2.
To A. R. Pope, for Sweet corn, a new and prolific hybrid, \$2.
To John Schouler, for a show of squashes, \$1.
To Stone & Co., for a good display of vegetables, \$1.
To A. Bowditch, for a show of vegetables, \$2.
To J. B. Moore, for a great display of vegetables, \$6.
To Mrs. L. Spaulding, for a show of corn, \$1.
To A. A. Andrews, for a show of vegetables, \$1.
To Hovey & Co., for a fine show of tomatoes, \$1.
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HORTICULTURAL OPERATIONS

FOR OCTOBER.

FRUIT DEPARTMENT.

GRAPE VINES in the greenhouse should now be divested of all their laterals, and where the spurs are very long, they may be partially cut in, at the same time taking off all the leaves which have a yellow tinge, in order to admit the full rays of the sun, both to ripen the wood and invigorate the plants, which will now have been brought in. The fruit should all be cut now, as the damp from the plants will soon injure it, if it is left on the vines. Air the house early in the morning, and close up early in the afternoon. Vines in pots should now be more sparingly watered, in order to check the growth, and harden and ripen the wood.

FIGS in pots should now be rather sparingly watered.

PEACH TREES in pots may also have less water, now that the young is ripening off.

RASPBERRY plantations may be made this month.

GOOSEBERRY and **CURRANT** bushes may be planted this month.

STRAWBERRY BEDS may yet be made, if the work is done early in the month. Plantations made in August or September, should be hoed and kept clear of weeds.

FRUIT TREES of all kinds may be removed the last of the month, or as soon as the leaves begin to fall.

TREES BUDDED in August and September should be looked to occasionally, and if the ties are binding them too tight they should be cut or loosened.

FLOWER DEPARTMENT.

CAMELLIAS should now be removed to the greenhouse or conservatory; see that the pots are all washed clean, the soil top dressed, and the foliage washed, or thoroughly syringed.

CHRYSANTHEMUMS layered in August should be taken off before severe frosts, and repotted in the next size pots; after standing a few days in a shady frame, they may be removed to the house or parlor for blooming. Water occasionally with liquid guano.

PELARGONIUMS should now be kept in the coolest part of the house, and be very sparingly watered.

ROSES, of tender kinds, growing in the open ground, should be taken up and potted this month. Hardy roses may be successfully transplanted the last of the month.

HEATHS planted out in the open ground should be taken up before severe frosts.

DAHLIAS will now be in full bloom, unless early frosts have injured them; they will soon, however, be more hardly dealt with, and those which are in low and exposed places had better be taken up immediately; those on higher ground may remain some time.

GLADIOLUSES, **TIGER FLOWERS**, and similar bulbs should now be taken up.

VERBENAS may yet be propagated, if the stock is not large enough.

LILIES of all kinds may be reset this month.

PANSIES should now be propagated, if not already done.

ANTIRRHINUMS should be propagated this month.

TULIPS and **HYACINTHS** may be planted this month.

RANUNCULUS beds should soon be prepared for planting in February next.

AZALEAS. Continue to water sparingly, and remove to the greenhouse or frame to avoid heavy rains.

FUCHSIAS done blooming may be placed away under the stage, or in the back shed.

OXALISES, **SPARAXIS** and **IXIAS** may now be planted.

SCHIZANTHUSES will need an occasional shift, if fine specimens are wanted.

PERENNIAL PLANTS of all kinds may now be transplanted; it is the most favorable season, and there is an abundance of time now to do it properly.

CARNATIONS should now be taken up and potted, or removed to frames, where they will winter safely, with a little covering of leaves or straw.

HERBACEOUS PÆONIES may now be safely transplanted.

EPIPHYLLUM TRUNCATUM and its varieties should now be more liberally watered, as they are coming into bloom.

DAPHNES may now be repotted.

DOUBLE HELIANTHEMUMS should be taken up this month.

BEGONIAS now coming into bloom may be repotted.

KALMIAS, **AZALEAS**, or any other plants wanted for forcing should now be taken up and repotted.

SCARLET GERANIUMS may now be propagated for a spring stock.

STEPHANOTUS now done blooming may be more sparingly watered.

GREENHOUSE PLANTS of all sorts, should now be top dressed, staked, and put in order for the winter.

THE MAGAZINE OF HORTICULTURE.

NOVEMBER, 1850.

ORIGINAL COMMUNICATIONS.

ART. I. *Polmaise Method of Heating Greenhouses and Hothouses, compared with Hotwater, scientifically and practically considered.* BY R. B. LEUCHARS.

(Continued, from p. 441.)

HAVING considered the merits of hot air and hot water, in comparison with each other, I shall now point out some of the causes of failure in hotwater apparatuses, which have led to the premature condemnation of this method, with the view of showing that these failures are not attributable to the system, nor the principles upon which it works, but to a misconstruction of the one, and a misapplication of the other.

I may here remark, that many apparatuses that have come under my observation have failed through the most trifling causes, so trifling, indeed, that the necessary alterations would cost only a few dollars to convert the useless and unprofitable into a perfect and efficient apparatus; and I have seen some instances of these unworkable apparatuses removed and destroyed, and the whole cost sacrificed, when the opinion of a person who understood the subject would have saved the apparatus from destruction, and made it answer the intended purpose.

Perhaps the most frequent defect in a hotwater apparatus, is "imperfect circulation." It is this circulation which prevents the water in the boiler from being heated above the boiling

point, and generating steam. It is this circulation which causes all the water in the apparatus to pass successively through the boiler,—conveying the heat to the parts most distant from it, by which it is again cooled, and again returns to the boiler to absorb heat and carry it away. Without this circulation those parts of the apparatus which are remote from the source of heat, would receive little or no heat at all. From this, then, it will be evident that circulation forms one of the most important of our present considerations.

Our first object, then, is to consider the nature of this circulation, and the power that produces it, so that we may have a clearer perception of the causes of its obstruction.

The cause of circulation in hotwater pipes is in consequence of the unequal pressure of water on the *lower* pipe, not of any alteration in the level of the water in the pipes, as some erroneously suppose. Some persons imagine that if the pipes be inclined so as to allow a gradual fall of the water in its return to the boiler, circulation is obtained, or increased. This, at first, appears very plausible, particularly with regard to the forms of apparatus generally used in heating hothouses ; but the principle is entirely erroneous, and appears to arise from regarding the subject as a simple question of hydraulics, instead of a compound result of hydrodynamics. If the question were only as regards a fluid of uniform temperature, then the greatest effect would be obtained by inclining the pipe towards the boiler ; but the fluid contained in the pipes, when motion is necessary, is of varying density and temperature, which materially alters the conditional results.

In order to explain this more clearly, let us illustrate one of the most simple forms of apparatus, (*fig. 29.*) such as are used

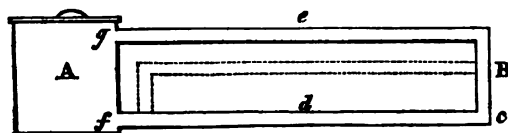


Fig. 29. Hotwater Apparatus, showing the principle of Circulation.

in some of the most extensive forcing establishments in England, the principle of which is represented in the above cut.

Now let us suppose heat to be applied to the boiler, A; a dilatation of the volume of the water takes place, and it becomes lighter; the heated particles rising upwards through the colder ones, which sink to the bottom by their greater specific gravity, and they in their turn become heated, and expand like the others. This intestine motion continues until all the particles in the volume become equally heated, and have received as much heat as the fuel can impart to them. But as soon as the water in the boiler, A, begins to acquire heat, and to become lighter than that which is at the opposite end, B, the water which is in the lower horizontal pipe, *d*, is pressed by a greater weight at *c* than at *f*, and it therefore moves towards A, with a velocity and force equal to the difference in pressure (or weight of the two columns,) at *c* than at *f*. The water in the vertical pipe, B, would now fall to a lower level were it not that the pipe *e* furnishes a fresh supply from the boiler, to replenish the deficiency. By means of this unequal pressure on the lower, or what is called the return, pipe, the water is forced to circulate through the apparatus, and it continues to do so as long as the water at B is colder than that in the boiler. And as the water in the pipes is constantly parting with its heat, both by radiation and conduction, while that in the boiler is continually receiving additional heat from the fire, an equality of temperature in the water contained in the whole apparatus can never occur, while the apparatus is at work, for if it did, circulation would cease.

Contrary, therefore, to what is supposed by many, we find that circulation commences in the *lower*, or return pipe first. The first motion among the particles being at *f*, in the foregoing cut, and that this motion is caused by the superior weight of the column of water in the vertical pipe, B. To a person unacquainted with this astonishing principle in hydrostatics, the theory of circulation here given may probably appear erroneous, because the quantity of water contained in the boiler, A, is so much greater than that in the vertical pipe, B. It is, however, one of the first laws of hydrostatics, that the pressure of fluids depends for its

amount, on the height of the column only, wholly irrespective of the bulk, or actual quantity of the fluid contained in the column. Therefore a pipe, which is not larger than a quill, will transmit the same amount of pressure as if it were a foot or a yard in diameter, provided the height in both cases be alike. On this law, therefore, depends the circulation of the water in the forms of hotwater apparatus generally used in horticultural structures.

From the foregoing cut it will be seen that the height of the column, B, is just equal to the distance between the apertures of the two pipes, *f* and *g*. The effective pressure is the same, whether the return pipe be carried on the level from *c* to *f*, or according to the dotted lines, as is frequently done. But suppose that the return pipe be carried on an inclination from B to *f*, as is frequently done, under the impression of gaining additional power in the circulation. Without having recourse to abstruse calculations, I think it will be evident enough that this inclination of the pipe tends to reduce the amount of pressure instead of increasing it; for, though the height of the column be in both cases the same, the effective pressure of the column is reduced by its horizontal position, in consequence of the friction on the sides of the pipe, which is not compensated in any manner. Moreover, as there is actually more matter in a pipe filled with cold water, than in one filled with hot water, the gravitating force will be inversely proportional to the temperature; that is, it will be less in proportion as the temperature of the water is greater. There must, therefore, under all circumstances, be a positive loss of effective pressure by inclining the pipe in the manner stated.

If we are right in the conclusion that the power which produces the circulation in the pipes is the unequal pressure on the extremities of the return pipe, then the result will be precisely similar, whether this force acts on a pipe ten feet, or on one a hundred feet in length, and it is so.

This has always occurred to me one of the most simple and efficient forms of apparatus for heating hot-houses,—and many fine structures are so heated. As an instance, I might

give the large range of metallic forcing houses at Woburn Gardens, in England, which are heated on this simple plan; each house, or division of the range, being supplied with a separate apparatus and boiler. The boilers in this case are merely square boxes, open at top, but each having a wooden cover which fits tightly on the edges. The circulation is so perfect that no steam is generated,—the water, therefore, never reaches the boiling point. These apparatus had been at work for many years previous to our living there, without getting out of order, or in need of repairs, and at that time were working as well as when they were erected.

Though apparatus of this form are suitable under the general arrangements of horticultural structures, there are, nevertheless, some circumstances which require their modification, and some others under which they are quite inapplicable, to which, in connection with the misapplication of the principle, we will subsequently advert.

Boston, Oct. 15, 1850.

(To be continued.)

ART. II. *Observations on the Culture of Taxodium sempervirens*. By M. DESPORTES, of M. André Leroy's Nursery, Angers, France.

WILL you permit me to add some observations on the manner of growing this species, to those you have already published, respecting the *Taxodium sempervirens*, in the August number of your estimable Magazine.

Indeed, I do not know any tree in the family of the Coniferae, the growth of which is such as that of this *Taxodium*. In 1845, M. André Leroy, of Angers, received two plants of this splendid evergreen tree; he planted them in the open air in his large and beautiful nurseries, without giving them any more care than other hardy evergreens. One was in a heath soil, (*terre de bruyere*,) and the other in a loamy soil. The first is now *twenty-four* feet high; the divergent

branches, which fall into wreaths, almost like the Norway spruce, or Cedar of Lebanon, spread about eight feet from the stem, producing by its numerous ramifications, and the dark green leaves with which it is loaded, one of the most picturesque objects imaginable. The stem at the base measures one foot and six inches in circumference.

The second, which was planted in common soil, is not exactly so high; its branches are nearer the main stem, and the form or habit of the tree is more pyramidal, but the effect of which is not less beautiful.

If we consider attentively this tree, we easily recognize that nature has given it every good quality to render it the most valuable of all hardy trees. The great facility with which it is propagated has enabled nurserymen to multiply it in such large quantities, that, although it is of very recent introduction, they are now supplied with an abundant stock.

The first ones which have been planted on lawns and pleasure grounds, are so beautiful that they justify the haste which nurserymen have taken in propagating this tree.

For some time, seeing the rapidity of its growth, we feared that it was not sufficiently hardy to resist our winters; but five years ago it grew in the open air, like all other hardy evergreen trees; besides, last spring we had 30° of frost, of Fahrenheit; at this time it had already begun to grow, and the sap in full circulation, which was a most favorable condition to receive injury from frost; nevertheless, none but a few of the young shoots of the late autumn growth were stricken, and a few buds already open, and only the young plants in the nurseries,—large ones were saved. The young shoots and buds which suffered were cut off, the adventitious buds opened with great vigor, and now those, the extremities of which had suffered, are the most beautiful. We can thus say that this splendid tree is perfectly hardy, and grows with great rapidity.

Angers, Sept. 15, 1850.

ART. III. *Hints respecting the Summer Treatment of Fruit Trees.* By an OLD FRUIT CULTIVATOR.

DEAR SIR,—Notwithstanding the numerous articles that have been written monthly, by yourself and your numerous contributors, on the cultivation and management of fruit trees, yet, on looking around me, I cannot help remarking the great discrepancy in point of summer management on the part of many practical fruit growers, throughout the country, and that too by many who, one would think, are fully acquainted with anything which I can say on the subject. Nevertheless, if you can spare me room in your valuable columns for a few remarks, I will, as briefly as possible, point out what I mean.

It is, I believe, generally admitted by all experienced cultivators, and more especially practical gardeners, (a class who are somewhat slow to admit anything that retaliates upon themselves,) that there is still something required in the shape of knowledge, before we can be fully master of a fruit tree. It gets barren or blighted,—it cracks its fruit,—it grows sickly,—becomes wretched to look at, and latterly dies; yet there is no remedy at hand, no specific antidote to any or all of these evils; we may doctor the tree with ashes, iron filings, and highly concentrated special manures, but all these have oftener failed than been effectual. Why cannot we get at the disease and the remedy, as a physician gets at his patient's illness, and with the same degree of hope? Why cannot some of your scientific and physiological correspondents take hold of this subject in a thoroughly practical manner, that we may not go plodding on continually on mere chance, throwing away our money on horticultural drugs, and killing our trees into the bargain.

Now, Mr. Editor, I would like, if you or some of your clever correspondents would tell me, to know whether the ill-success which attends our efforts to produce permanency and productiveness in fruit trees, arises from the mismanagement of the root or the top? I have my own opinion on

this matter, but I will not say much about it till I hear yours, or some other cultivator's, who may think proper to give his. Perhaps your readers may think enough has already been written on this subject, to instruct all who are desirous to distinguish between right and wrong; but I think a wide field still lies open for the exercise and display of talent and industry; and as these discoveries may be considered as relating to the highest branch of gardening, they would, undoubtedly, reflect credit on those whose investigations tend to elucidate facts hitherto unknown, and accelerate the practice of some method which would be generally applicable to the peculiar condition of our trees; so that we might know with certainty what to do with them, and what to administer when they are assailed by the numerous ills to which fruit trees are subject.

If you wish it, I will give you a few more ideas of mine on this subject, as I have been somewhat largely engaged in the culture of fruit trees, and with tolerably fair success.

Sept. 20, 1850.

[We shall certainly welcome the views of our correspondent to our pages, and fully agree with him that there is room for great improvement in the culture of fruit trees. One would suppose, after reading much that is published under the name of horticultural science, that nothing more need be known to reach the perfection of cultivation; an amateur has only to look into the pages of a gardening periodical and find a *recipe* which will at once transform all his diseased trees into healthy ones, and his blighted fruits into the most fair and beautiful. The apothecary's shop is to be the grand source for curing the ills of the vegetable as well as animal world. All is not science that is written under that name; and especially in Horticulture does this hold true. Indeed the greatest bar to its progress is the charlatanry of many of its practitioners.—Ed.]

ART. IV. *Descriptions and Engravings of three new varieties of Pears.* By M. DESPORTES, of M. Leroy's Nursery, Angers, France.

[ANGERS is the town of nurseries in France. Almost everybody here is interested in this trade. M. André Leroy is the leading nurseryman, and his superintendent,

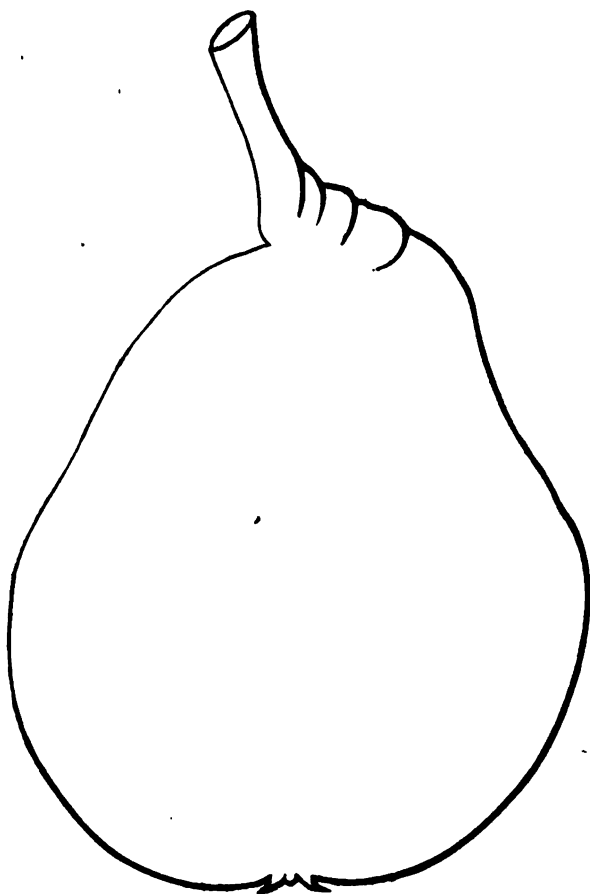


Fig. 30. Beurré Superfine.

M. Desportes, who visited this country last year, has sent us the descriptions and engravings of three new pears, two only

of which have yet fruited in American collections. These are the Beurré Superfine and the Beurré Robin.—ED.]

1. BEURRE' SUPERFINE.

Size, rather large, three and three quarters inches long, and three and a quarter in diameter : *Form*, irregular, turbinate : *Stem*, stout, and wrinkled at the base, fleshy, large, one inch long : *Eye*, small, set nearly even with the surface : *Skin*, yellowish green, with broad, grayish, scattered patches, and numerous small brown specks : *Flesh*, whitish, with some yellow or brown lines or specks : *Juice*, abundant, agreeably perfumed. Ripe in September.

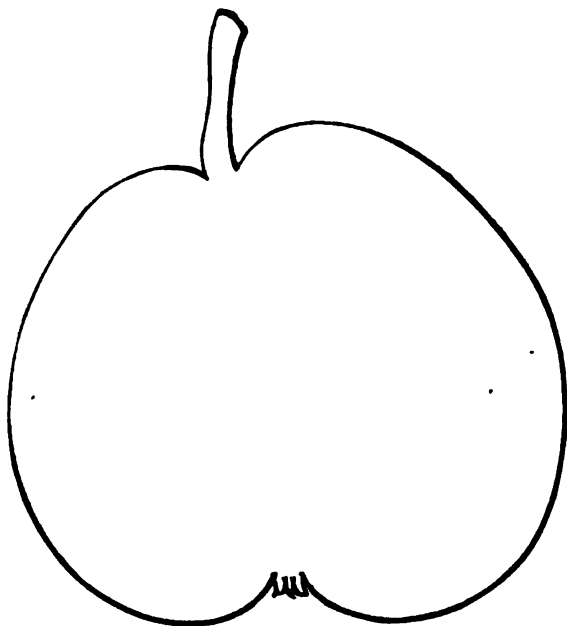


Fig. 31. *Doyenné Goubault.*

It is a fine pear, of first rate quality, and one that every cultivator will add to his collection when it is better known.

Tree, a good grower, with upright shoots, the young wood yellow or grayish : buds, large, brown : the leaves green,

glabrous, rather long, reflexed, obtusely dentate. It is a good bearer.

This pear (*fig. 30*) was obtained from seed by M. Goubault in 1847.

2. DOYENNE' GOUBAULT.

Obtained from seed by M. Goubault, in 1849, (*fig. 31.*)

Size, medium, three inches long and two and three quarters inches in diameter : *Form*, roundish, depressed : *Stem*, short, stout, sometimes slender, inserted in a shallow cavity of middling breadth : *Skin*, yellowish, speckled with brown, nearly everywhere : *Flesh*, white, rather crisp or coarse, very juicy : *Flavor*, perfumed, vinous : *Core*, large, coarse, stony : *Seeds*, small : *Eye*, middling deep : segments of the calyx short and liable to fall sometimes.

Tree, rather pyramidal : wood yellow with gray specks : buds, long, brown, blackish : leaves, yellow greenish, long, glabrous, obtusely dentate. A good bearer, but does not grow well. It ripens from September to February.

It is a first rate variety.

Sent by M. André Leroy, of Angers, France.

3. DOYENNE' ROBIN.

Obtained from seed by M. Robin, in 1840, at Angers, France. (*Fig. 32.*)

Though this excellent kind was obtained ten years ago, it is scarcely known.

Size, very large, nearly four inches long and three and a half inches in diameter : *Form*, obovate, cut off at the extremities, regular : *Stem*, short, stout, wider at the extremities, rather curved, three quarters of an inch long : *Calyx*, open, medium shallow : *Skin*, yellow, covered with numerous uniform specks : *Flesh*, white, juicy, buttery, slightly perfumed.

Tree. Branches divergent, young wood grayish, clear, speckled with brown, downy at the extremities : buds large, dark brown : leaves, narrow, light or yellow green above,

and pale or glabrous beneath, reflex, obtusely dentated, always red petioled. It grows very fast and forms a beautiful tree.

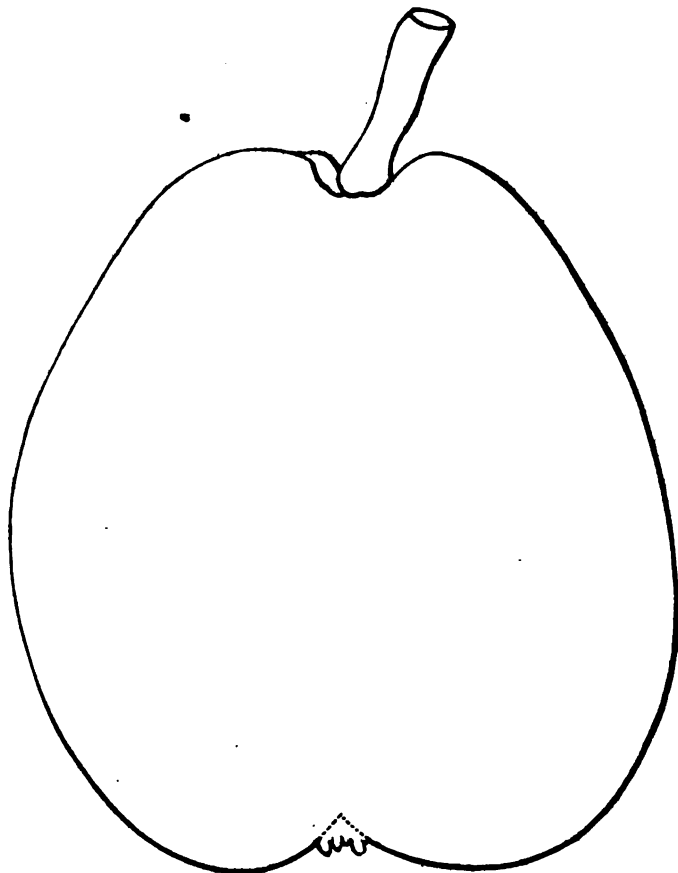


Fig. 32. Doyenné Robin.

This variety is one of the finest ones we have obtained for several years, and well deserves a place in the best collection of pears.

Angers, Sept. 15, 1850.

ART. V. *Descriptions and Engravings of Select Varieties of Apples.* By the EDITOR.

OWING to a typographical error in our last volume, (XV, p. 536,) the enumeration of the number of varieties which we have described and figured, should have read *thirty-four* instead of *twenty-four*. We now correct the mistake, which was overlooked in our last article in the present volume, p. 64.

XL. GRAVENSTEIN. *Pom. Magazine*, Vol. III, p. 98:

The Gravenstein (*fig. 33*,) is one of the finest apples which has been introduced into American Collections. In England it is esteemed "an apple of great merit, and one which should be found in all good gardens." It has been figured in the *Transactions* of the London Horticultural Society, and in the *Pomological Magazine*, as above quoted, from which we gather the following account of its history:

The name is supposed to be derived from its having been originally found in the garden of a castle called Grafenstein, in Holstein, to which it is said to have been introduced from Italy.

The German authors, Hirschfeld, Christ, and Mayer, describe a variety as the Gravensteiner, but the authors of the *Magazine* consider it extremely doubtful whether it is the same as the Gravenstein of the English, and therefore do not quote the synonyms. Mayer expressly states that it is the same as the Calville Blanche d'Hiver.

The Gravenstein, in our climate, is an early fall apple, ripening with the Porter, and is generally gone by the end of October. At this season it is scarcely surpassed by any other variety. Its crisp and tender flesh, its abundant juice, and its peculiarly high and refreshing flavor, place it among the very best autumn apples. Lindley states that it will keep till April, which may possibly be the case in Great Britain, but not in our climate.

The tree is a vigorous and healthy grower, an abundant

bearer, and the fruit is always remarkably fair and handsome.

Size, large, about three inches broad, and two and a half deep: *Form*, roundish, broadest near the base, which is little flattened, and narrowing to the crown, which is large, and slightly depressed: *Skin*, fair, smooth, with a greenish yellow ground, distinctly streaked and pencilled with pale red, and lightly splashed with crimson, deepest

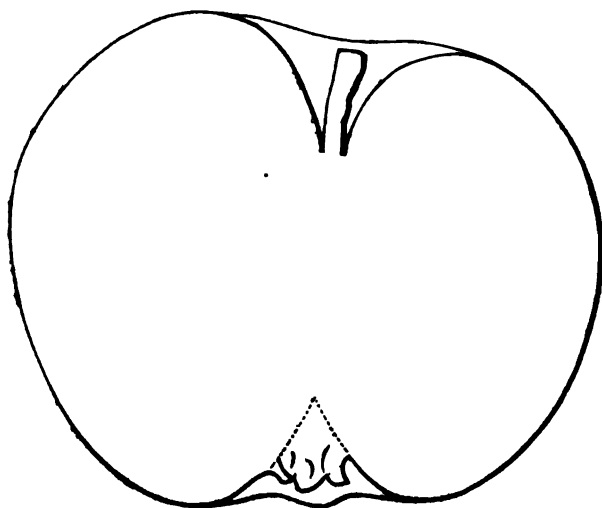


Fig. 33. *Gravenstein*.

on the sunny side: *Stem*, very short, less than half an inch long, moderately stout, and deeply inserted in a medium sized, somewhat uneven cavity: *Eye*, large, closed, and moderately sunk in a large, open, and furrowed basin; segments of the calyx, large, broad at their base, and woolly: *Flesh*, yellowish white, rather coarse, crisp and tender: *Juice*, abundant, rich, subacid, sprightly, and high flavored: *Core*, rather small, closed: *Seeds*, medium size, light colored. Ripe in September and October.

XLI. DUCHESS OF OLDENBURGH. Hort. Soc. *Cat.*, 3d Ed., 1842.

Mr. Manning, we believe, first fruited the Duchess of Oldenburgh, (*fig. 34.*) and gave a brief account of it in his *Book of Fruits*. Since then it has been considerably disseminated, and though yet far from being common, is to be found in many fine collections of fruit. It is said to be of Russian origin, having somewhat the character of the Red

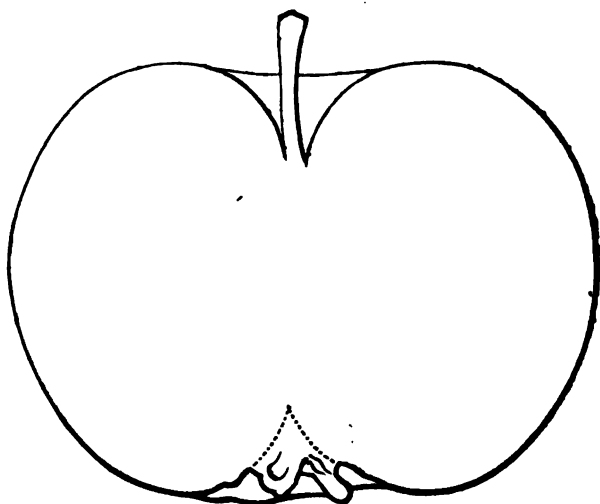


Fig. 34. Duchess of Oldenburgh.

Astrachan, exceedingly beautiful, covered with a delicate bloom, and possessing the same subacid flavor, and crisp flesh. It is an excellent bearer, and will hold a prominent place among our August and September apples.

Size, medium, about three inches broad, and two and a half deep: *Form*, roundish oblate, somewhat flattened at each end, and very indistinctly ribbed around the crown: *Skin*, fair, smooth, clear lemon yellow, very distinctly splashed, and striped with deep brilliant red, palest on the shady side, and covered with a whitish bloom: *Stem*, medium length, about three quarters of an inch long, rather

slender, and moderately inserted in a medium sized, rather open cavity: *Eye*, rather large, closed, and but slightly sunk in a somewhat irregular and knobby basin; segments of the calyx broad, long and twisted: *Flesh*, yellowish white, rather coarse, crisp and firm: *Juice*, abundant, subacid, and well flavored: *Core*, rather large: *Seeds*, medium size, plump. Ripe in August and September.

XLII. TUFTS.

Tufts' Baldwin, of some.

The Tufts (*fig. 35*,) is a new seedling, which originated in Cambridge, Mass., in the garden of the late Peter Tufts. The original tree is now thirty years old, and began to bear when about sixteen years of age. It was first noticed among

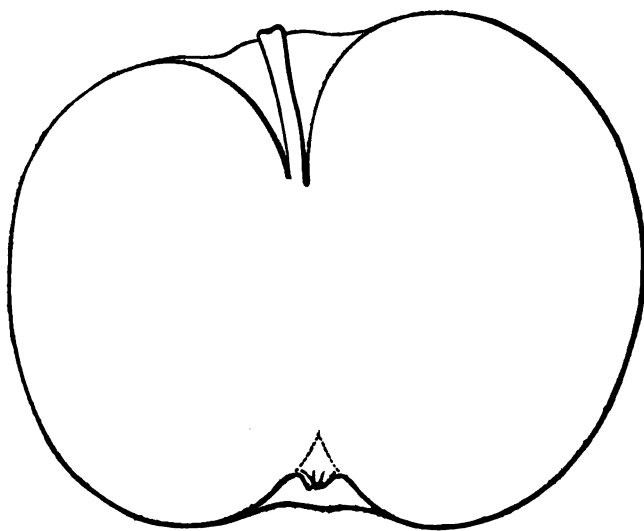


Fig. 35. Tufts.

a small quantity of seedlings, which were planted for stocks, and, from the promising appearance and vigor of the tree, it was transplanted to another part of the garden to bear. Here it continued to advance slowly, producing nothing for many years, and only bearing a sufficient quantity to attract

attention until within six or eight years. The tree now forms a fine head; and in full fruit, as it was this year, presents a splendid appearance.

It grows similar to the Baldwin, resembles it somewhat in appearance, and has the same pleasant admixture of sweet and acid, which gives the former so high a character. The fruit is very fair and handsome, and the tree bears every year.

Size, large, about three and a half inches broad, and two and three quarters inches deep: *Form*, roundish oblate, swollen on one side, somewhat uneven in its outline, being slightly ribbed, and narrowing little to the crown, which is oblique: *Skin*, fair, smooth, of an oily touch, with a greenish ground, nearly covered with dark dull crimson, little russeted around the stem, and the surface interspersed with a few scattered yellow specks: *Stem*, medium length, about three quarters of an inch long, slender, and deeply sunk in a large rather open cavity: *Eye*, small, closed, and moderately sunk in a very broad, and little furrowed basin; segments of the calyx short: *Flesh*, greenish white, fine, crisp and tender: *Juice*, tolerably abundant, with a pleasant admixture of sweet and acid, high flavored and excellent: *Core*, medium size, nearly closed: *Seeds*, medium size, mostly abortive. Ripe in October and November.

ART. VI. *Pomological Gossip.*

MR. THOMPSON'S NOTES ON SEVERAL VARIETIES OF PEARS, INCLUDING FIVE OF MR. KNIGHT'S SEEDLINGS. In the spring of 1849 cuttings of the following varieties of pears were distributed among the members of the London Horticultural Society, and an account of them supplied by Mr. Thompson. As Mr. Knight's varieties are yet but little known among our cultivators, they will be pleased to learn that they are so highly esteemed by so good a pomologist as Mr. Thompson:

1. *Beurré d'Amanlis*, a large obovate pear, ripening in September, superior to the *Brown Buerré* in quality, and so much hardier that it bears well as a standard, whereas the *Brown Buerré* will not succeed as such.

2. *Eyewood*, one of Mr. Knight's valuable hardy pears, ripe in October. Fruit of it from a standard is as large as that of *Gansell's Bergamot*; rich and excellent.

3. *March Bergamot*, also raised by Mr. Knight. The fruit is about the size of the *Autumn Bergamot*, and like it in shape. It will keep till March, or even later. Mr. Knight stated that it would be found very valuable in cold and unfavorable situations, in which the French and Belgian varieties would not succeed.

The shoots of this, as well as that of the *Eyewood*, are very thorny when the trees are young; but fewer are produced as they get older, and fruit spurs are then formed in their places.

4. *Shobden Court*, a middle sized obovate fruit of yellowish russet color, and rich sugary flavor; ripe in January and February. It is amongst the latest raised of the race of hardy pears introduced by the late Mr. Knight.

5. *Knight's Monarch*, also raised by Mr. Knight. The true sort cannot be too generally cultivated. In various parts of the country, where it has been tried, it has invariably proved excellent. Ripe in December, January and February.

6. *Broom Park*, a remarkably sugary pear, middle-sized, roundish, with a flavor partaking of those of the melon and pine apple. Ripe in December and January.

7. *Compte de Lamy*, middle-sized, roundish, sugary, and rich; ripe in October. The tree has an upright mode of growth, and bears abundantly.

These are all hardy pears, of excellent quality; and better from standards or dwarfs, than from walls.

To these remarks of Mr. Thompson we can add, that, so far as we have proved these sorts, they fully merit all he has said of them. *Beurré d'Amanlis* is a most excellent pear, and indispensable in the smallest collection. It will be as

popular as the Louise Bonne of Jersey. Knight's Monarch will, we think, become one of the most desirable winter pears. Compté de Lamy has not been properly appreciated; it is hardly up to medium size, but in flavor is surpassed by scarcely any of its season; no good collection should be without it. We shall figure and describe it in our next volume. Broom Park, Shobden Court, and March Bergamot, are yet scarcely known, and we have never yet seen a well grown specimen of either of them. We have no doubt they will be found very valuable sorts. The Dunmore, which was considered by some only second rate, has been one of the most excellent varieties we have tasted this autumn. The specimens have been very large, and their rich vinous *Champagne* character has rarely been surpassed, and scarcely equalled, by any other kind.

SMITH'S BORDENAVE PEAR, of which we gave a brief account in our volume for 1848, proves to be one of the finest September pears. Specimens sent us from the original tree, in Hartford, Conn., have established its claims to the highest place among autumn pears; having much the character of the Brown Beurré, but more sugary and melting, and at the same time peculiarly refreshing and rich. It has somewhat the appearance of the Beurré d'Amanlis, but is not so large.

SHELDON PEAR.—This is the name under which we have received some very fine specimens from Wayne county, New York. Last year, by the kindness of a friend, we received a dozen or more of the pears, and upon trial we found them to be among the best we had eaten; so fine indeed that we thought they must be the Gray Doyenné. Upon inquiring into the history of the tree, however, which we shall give at length hereafter, we found it to be another of the native seedlings, of which so many have recently been described and introduced to notice. It is a large sized pear, of obovate form, with a smooth, greenish russet skin; stem rather short and stout; eye very slightly depressed; flesh yellowish, very melting and juicy, with a highly perfumed and delicious flavor, resembling the Gansell's Bergamot. It ripens in October. It will, we think, rank with the finest autumn pears,

ART. VII. *Cultivation of Tropæolums.* By W. SAUNDERS,
Gardener to J. Hopkins, Esq., Clifton Park, Baltimore.

CLIMBING plants are universally admired. Independent of any beauty of flower, or elegance of foliage, there is a natural gracefulness in their habit which is always pleasing ; and they never seem out of character wherever they are introduced.

Moderate in growth, and profuse in flowering, the Tropæolums are a much admired species of this description ; combining beauty and elegance in a high degree, and although principally natives of South America, they are very hardy, and can be brought to the greatest perfection in the low temperature of a greenhouse ; flowering abundantly during the early spring and the greater part of the summer months.

Of late years many valuable additions have been made to this family of plants, both in regard to variety of color in the flowers, and diversity of form in their leaves ; there are upwards of twenty species in cultivation, all of them exceedingly pretty. A few of the most desirable for greenhouse decoration, with the color of their flowers, are the following :

TROPÆOLUM TRICOLORUM, scarlet, orange, and black.

T. AZUREUM, light blue, a very desirable variety.

T. BRACHYCEPHALUM, yellow.

T. PENTAPHYLLUM, red and green.

T. LOBBIAENUM, orange scarlet.

T. SPECIOSUM, red.

T. UMBELLATUM, orange red, tipped with green, and

T. ATROSANGUINEUM, dark.

There are others worthy of particular notice, but the above may be considered a good selection.

They are very easily managed ; the principal point to be attended to is the application of water ; they are very impatient of much moisture about their roots, consequently the pots must be well drained and the soil carefully prepared. Lumpy pieces of sandy loam should be employed, and if mixed with a few pieces of charcoal or crocks, a rapid circulation of water and air will be more certainly secured. An additional reason for extra care in this respect is, that they

require to be planted at once into the pots in which they are to flower ; it being necessary, from their habit of growth, that the trellis on which they are to be trained, should be adjusted at once, and it is rather hazardous to attempt shifting them into larger pots when half grown.

If the plants have flowered early in the season, and the tubers thus brought early into a state of rest, they will, in all probability, commence growing during the autumn months. When this is the case, they should be potted at once, as the energies of the plant are then at work, and if checked, the growth would be materially injured. At whatever period they commence growing they should be planted. An eight-inch pot will not be too large for a tuber two inches in diameter. When placed in the pot the upper surface of the tuber should be elevated a little above the soil. They should be kept in a cool, airy situation, out of doors, if the weather permits, or on the front shelf of the greenhouse, and water sparingly applied for a time. This is, indeed, the only critical period in their growth. If the soil is kept constantly wet after they are newly planted, they will frequently grow and attain considerable size upon the sap in the tuber, without forming any new roots. When this happens they never complete their growth. On the other hand, if they are kept rather dry than otherwise at this time, it will induce an emission of roots from the tuber in search of nourishment.

When fairly started into growth the top may be pinched from the strongest shoots. This will insure a profusion of laterals, which should be trained so as to fill the lower part of the trellis well at first ; if in good health, there will be little fear of the top getting well clad before they commence flowering ; and if once allowed to get into an entangled mass, there is no possibility of arranging them without greatly destroying their beauty.

They are particularly subject to be infested with aphid ; but the destruction of that pest is simple, and the means within the reach of every one. I believe, however, that under proper treatment, plants will seldom be troubled with any kind of vermin, but when they are neglected, and

allowed to become filthy, their organs of respiration become stopped; they turn languid, unhealthy, and subject to the attacks of insects, which are more frequently the consequence than the cause of disease.

They should always be freely aired, which will cause a sturdy growth and an equally profuse distribution of flower. When the flowers begin to fade let them have less water, and as the leaves change color place them out of doors and keep them dry to mature the tubers; they may then be turned out of the pots and placed on a dry, airy shelf, there to remain until they again show symptoms of growth.

The propagation of these plants may be effected either by seeds or cuttings. When seeds can be obtained, they produce the most vigorous growing plants. These should be sown as soon as ripe, in light soil, the pots well drained and placed near the glass in the greenhouse. As the plants appear, put in a small stake to each, to which it will climb. This should be allowed to remain after the stem decays, and it will serve as a mark to indicate the place of the tuber. It is well not to disturb them until they shoot forth a second time, as some of the seeds may not vegetate until the second year. If they thrive well they will flower the third year of their growth.

Cuttings of most of the species root readily if properly attended to. For this purpose select the strongest of the lateral shoots when about two inches long; cut them out with a small piece of the stem, and insert them in a well prepared cutting pot. They will seldom recover if once allowed to droop. Care must therefore be taken that their juices are not exhausted by too much light or air. If placed in a moderate bottom heat the formation of tubers will be accelerated, otherwise they are apt to lapse into a state of rest before this takes place. When the stems begin to decay, they should be kept perfectly dry, but they need not be disturbed until they have completed their second growth.

Another method of propagating those that are most difficult to raise from cuttings, such as *tricolorum* and *brachyceras*, is to place the tuber, when commencing its growth,

near the bottom of the pot, and fill up with soil as the plant progresses; coiling the stem several times round the inside of the pot before it reaches the surface, and in the course of the season several tubers will be formed upon the portion of the shoot thus covered with soil.

In referring to the means of support for these plants, I have used the word trellis, as they are generally trained upon flat, circular, shield-formed, or globular wire trellises. These always appear formal, neither do they range well with other plants. A few branches tastefully arranged, or the conical top of any of the species of fir, answer the purpose admirably, and are much more natural looking for climbing plants than any of the formed trellises alluded to above.

Baltimore, September 24th, 1850.

ART. VIII. *On the Cultivation of the Scarlet Pelargonium in Pots.* By PHILIP CONWAY. From the *Journal* of the London Horticultural Society.

THE Scarlet Pelargonium, or Geranium, as it is more generally called, though so common in all collections, from the window of the poor man to the conservatory of the wealthy, and withal so brilliant and showy an ornament, is rarely seen in the perfection to which, by judicious culture, it may be brought. The impression has prevailed that scarlet pelargoniums were so much inferior in attraction to their more delicate sisters that they have only been thought worthy a corner in the conservatory, as a kind of wintering place, from whence they are removed to display their charms, in beds or masses, or in the borders, in summer. Their splendor in such situations is acknowledged by all, and that they are equally susceptible of being made the gayest ornaments of the conservatory, from spring till autumn, may be at once inferred after reading Mr. Conway's excellent article.

We have been much surprised at the brilliant effect of a few large and exceedingly well-grown plants which have

ornamented our own conservatory the past summer; and that all may enjoy them who have the desire, we copy, with pleasure, Mr. Conway's remarks, which, if duly followed, will be attended with the best results:—

Having devoted a considerable portion of my time for these last twelve years to the cultivation and improvement of Scarlet Pelargoniums, and with the best results, and having also been a successful exhibitor in this class at Chiswick as early as the year 1839, I am induced to give the society a plain statement of my practice, which, if followed out, will be productive of a splendid and continuous display of bloom in the conservatory from May till November—surely a great desideratum.

About the middle of July select healthy plants, having from two to six shoots of young wood as close to the pot as can be obtained, and set them in a sunny situation. Give them little water for a fortnight; at the expiration of that period cut them down, leaving about two eyes of the old wood; set them in the shade, and water sparingly until they have broken well, which they will have done in about three weeks. Cease watering them then for two or three days, and when thoroughly dry shake them out of their pots, trim in any straggling roots, and re-pot into as small pots as the roots will admit of, shaking the mould well in among the fibres. When potted set them in the shade, and give them a good watering to make the soil firm; afterwards water sparingly until they shall have begun to grow freely, when they will require a more liberal supply, especially in dry hot weather, when they may be watered twice a day all over their leaves from a fine rosed pot. In about a week or ten days' time they should be removed to a situation where they will be exposed to the full influence of the sun during the greater part of the day. When they have well filled their pots with roots, they should be shifted into others two sizes larger than those they occupied, and in these they should be flowered. About this stage of their growth care must be especially taken to rub off all young shoots, except one or two on each main branch, and these should be as equal in

size and strength as possible all over the plant, in order that they may all flower at the same period, which they will do or nearly so, provided too many be not left on the plants; and, as large trusses of flowers are more attractive than small ones, though there may be double the number of the latter, it is necessary to encourage the strongest and healthiest shoots only. I should say that for a plant in a 6-inch pot two shoots would be sufficient to leave; for one in an 8-inch pot, three or four; and for one in a 11-inch pot, from four to six. The grand point being, as before stated, to get all the shoots left on the plants to bloom at the same time: the trusses will keep in perfection for a month or six weeks. A strong one-year old plant, with a single stem, flowered hydrangia-fashion, presents a superb appearance.

In staging the plants for the winter they should be placed as near the glass as possible, and no more water should be given them than will merely keep them from flagging.

About the beginning of February they should be introduced to the forcing-house, and placed where they can receive the greatest amount of sun. They will now require an increased supply of water; and when they shall have commenced growing vigorously, and while throwing up their flower trusses, they like a copious supply, in bright dry weather sometimes twice a-day, gently syringing the foliage and flower-trusses with a fine-rosed syringe, morning and evening. Liquid manure made from sheep's droppings, applied two or three times a-week, will add much to the strength of the truss of bloom and to the beauty of the foliage, but this should not be applied till the flower-trusses have made their appearance. As soon as these can be plainly distinguished from the points of the shoots, the latter must be carefully nipped off immediately before them, the flower-stalk will then take the lead and grow most vigorously. A stake will be required for each shoot, but it should not show above the foliage; the flower-stalk will be sufficiently strong to support the truss. Soon after the shoots are stopped they will send out laterals; these should be picked out with the point of a knife on their first appear-

ance, in order that the whole energy of the plant may be directed to the main shoots and flower-trusses. By the middle or end of May, plants treated as above will be in excellent order for the conservatory, and when placed there it is absolutely necessary to avoid all extremes in regard to watering, or the consequence will be that the foliage will assume a sickly hue and prematurely drop off, and the flowers will not be so persistent or long-lived as if the soil were kept in the happy medium between wet and dry. These are facts borne out by experience, and I am anxious to impress them on the minds of my readers.

When the beauty of the plants begins to fade they should be turned out to harden off previous to their being cut back in July, being intended for the first blooming in the following May, and the conservatory should be replenished by a batch cut down early in September. When the latter have broken, are shook out and re-potted, they should be kept as dormant as possible all winter. In April they must be shifted into large pots, and at once introduced into the forcing-house, where they should receive the same treatment as the former lot.

The plants for the third succession must be selected from those cut down in September; they should be introduced into the forcing-house in April along with the others; they should not be shifted then, but stopped back, and when they have broken they should be shifted, and afterwards treated in all respects as the former lots.

The soil which I use for my plants consists of equal portions of rich friable loam, leaf-mould, and well-decomposed cow-dung, mixed with coarse silver sand and lime rubbish to the amount of about one-eighth of the whole: these should be well incorporated with a spade, but not sifted. For large plants especially ample drainage is essential—say a few oyster-shells, and over these an inch in thickness of the rough siftings of old lime rubbish, then a layer of flaky hot-bed manure. I would here remark that during their earlier stages of growth, the soil should not be of so forcing or heavy a character as for more advanced plants; I mean it should contain more sand and less dung.

The stronger growing sorts of *Pelargonium* most suitable for the above rotation are, the *Shrubland Superb*, *Ibrahim Pacha*, *Royalist*, *Tam O'Shanter*, and *Eclipse*.

The best dwarfs are, *Phenomenon*, *Brompton Hero*, and *Tom Thumb*; the latter variety requires a much larger proportion of cow-dung and leaf-mould, to grow it well, than any of the other sorts, and it is the only one with which I am acquainted that will bear forcing. They should be stopped once or twice during their earlier stages of growth, which will cause them to assume a more dwarf and bushy habit, but they must not be stopped before their flowers, like the large growing sorts.

ART. IX. *Floricultural and Botanical Notices of New and Beautiful Plants figured in Foreign Periodicals; with Descriptions of those recently introduced to, or originated in, American Gardens.*

PLUMBAGO LARPENTÆ which we have several times noticed, has been in bloom, in our collection, all summer, and proves to be a very desirable addition to our limited stock of bedding plants, though falling considerably short of the reputation which it had obtained abroad. Its dark blue flowers form a fine contrast with the scarlet verbenas, and its dwarf habit and abundant blooming renders it gay throughout the summer.

ACHIMENES GLOXINÆFLO'RA.—This very beautiful new species, with large white flowers, delicately dotted with brown, has recently flowered in the collection of Mr. Wilder, and proves to be a very great addition to this fine family of summer flowering plants. For the purpose of hybridization, it will be a great acquisition.

NEW SPECIES OF THE GLOBE AMARANTHUS.—Among the small lot of seeds, which we had from New Mexico, is a new species of *Gomphrena*, very similar to the common *Globe amaranthus*, with *orange* colored flowers, very showy, and

making a fine contrast with the old red and white kinds so generally cultivated. It has the same habit, and appears to differ only in its leaves, which are much narrower. It will be a decided addition to this class of ornamental flowers.

133. *SCUTELLA'RIA MACRA'NTHA Benth.* LARGE FLOWERED
SCUTELLARIA. (*Lamiaceæ.*) Siberia.

A hardy perennial; growing two feet high; with blue flowers; appearing in autumn; cultivated in any good soil; increased by division of the roots. *Flore des Serres*, 1849, pl. 426.

A beautiful species of the *Scutellaria*, introduced from Siberia, and will, undoubtedly, prove quite hardy. The flowers are borne in a dense spike or head, and are of a rich deep-blue tint; leaves linear, very glabrous beneath. (*Flore des Serres*, January.)

134. *FU'CHSIA N'GRICANS Linden* DARK FLOWERED FUCHSIA.
(*Ænothèreæ.*) Venezuela.

A greenhouse plant; growing two feet high; with very dark flowers; appearing all summer; cultivated in light, rich soil; increased by cuttings. *Flore des Serres*, 1849, pl. 481.

A novel species of the fuchsia, and an interesting one to cultivators of this showy family. The leaves are disposed in verticillate whorls of threes, and the flowers, which are pendent, appear in clusters on the ends of the young branches. This species was found in Merida, in the province of Venezuela, at an altitude of 6,000 feet, where it inhabits humid and shady ravines, and will, probably, prove one of the hardiest species. (*Flore des Serres*, May.)

135. *CAME'LLIA JAPO'NICA VAR. ARCH DUCHESSE AUGUSTA.*
ARCH DUCHESSE AUGUSTA'S CAMELLIA. (*Ternstromiaceæ.*)

A new and splendid variety of the camellia, raised from seeds, by M. Corsi, and is, in reality, "une plante superbes entre les superbes." The flowers are large, finely imbricated, of a deep-crimson, striped in the centre of each petal with white and purple, and with a bluish tinge on the edge; the whole forming a new variety of rare merit.

Another variety has been introduced in the trade, under this name, which is only of mediocre merit, and cultivators

in purchasing should be careful to secure the one raised by M. Corsi. (*Flore des Serres*, July.)

136. *DIA'NTHUS CRUE'NTUS Hort.* FRINGED FLOWERED PINK.
(*Caryophyllæ.*) Siberia.

A hardy perennial (?); growing a foot high; with crimson flowers; appearing in summer; grown in light, rich soil; increased by layers and seeds. *Flore des Serres*, 1849, pl. 486.

"A charming species," introduced into M. Van Houtte's garden, from the Botanic Garden of St. Petersburg, and is believed to be a native of Siberia; it has somewhat of the appearance of the Sweet William, (*D. barbatus*,) but is more slender, with foliage like the Clove Pink, and heads of deep crimson flowers. It is hardy, but whether biennial or perennial, is not positively known. (*Flore des Serres*, July.)

137. *MOUSSO'NIA E'LEGANS Dne.* ELEGANT MOUSSONIA.
(*Gesnerææ.*) S. America.

A greenhouse plant; growing two feet high; with scarlet flowers; appearing in autumn; grown in heath soil, loam and sand; increased by cuttings. *Flore des Serres*, 1850, pl. 489.

A very beautiful gesneraceous plant, similar in habit to *G. oblongata*, which has been made the type of this new genus, by M. Requel, and now called Moussonia. It has the same soft velvety foliage, and the flowers, which are scarlet, with a yellow throat, are beautifully dotted with deep scarlet. It requires the same treatment as the *Gesneras*, and flowers freely all the autumn. (*Flore des Serres*, July.)

138. *TROPÆ'OLUM DECKERIA'NUM.* DECKER'S NASTURTIUM.
(*Tropæoleæ.*) Venezuela.

A greenhouse climber; growing four feet high; with green and crimson flowers; appearing in spring and summer; cultivated in light, rich soil; increased by cuttings and seeds. *Flore des Serres*, 1849, pl. 490.

"If a habit the most graceful, a form the most delicately curious, the most elegant contrast of colors, and a happy aptitude for ornamenting arbors or metallic trellises,—if all these united, suffice to recommend a plant to amateurs,—this new *Nasturtium* is first among its congeners." Its foliage and habit are similar to *T. Lobbianum*; the calyx is green; the spur carmine, tipped with emerald; and the petals are of a deep azure tint, delicately fringed; a rare combination of

colors. It is as easy of cultivation as *T. Lobbianum*, and will prove a great addition to our gardens. (*Flore des Serres*, July.)

MISCELLANEOUS INTELLIGENCE.

ART. I. General Notices.

CONIFERÆ IN SCOTLAND.—*Taxodium sempervirens* and *Cryptomeria japonica*.—Young plants of each of these Coniferæ were planted in situations in the shrubbery here, in May, 1849, where they remained protected from the cold winds, but otherwise without any protection or covering, all last winter. In spring the *Cryptomeria* was apparently as green and fresh as when planted, but on inspection, I observed that the points of the shoots were black. It continued without apparent growth, till the end of July or beginning of August, since which time it has become much more vigorous and healthy in appearance, but with slight increase of growth.

The *Taxodium* lost its leading shoot, which had not ripened its wood, and was slightly discolored in spring, but began to shoot anew in June, and has grown considerably since, and regained its color.

Araucaria imbricata.—Four plants of this had stood out for three winters, without the slightest injury. This spring they were, in part, discolored, and some of them lost several branches. They are all planted on the mown grass, and had no protection from the wind and snow, otherwise they would not have been discolored, as frost, however severe, never seemed to affect them. Can you inform me whether the discolored spines will continue a permanent disfigurement to these plants?

Abies Smithiana.—This pine has a wonderful property of recovering the injuries of winter, and even its appearance, in a great degree, towards autumn. Although a few plants of it were not hurt last season, the greater number were somewhat disfigured in spring, and a few killed outright.

Pinus excelsa.—This pine is unquestionably hardy, and yet we injured several plants of it, by exposing them at too early a stage.

Cupressus torulosa.—We lost a number of young plants of this Cypress, by putting them out the second year from seed, without covering from the wind. One only survived, and seems now hardy enough to stand out this winter. We have two plants of this Conifer, of which the seed came from Australia, and one of these was exposed to the severe frosts of last spring, without injury, and has grown considerably this season. If they are the same species, of which I am not quite sure, they are certainly more hardy than the plant I formerly raised from Indian grown seed.

We have one specimen of the rare Conifer, from Australia, which Mr. Anderson exhibited at the Caledonian Horticultural Show this season, but it is too young to expose this winter. It resembles the Chinese arbor-vitæ

much more than *Cupressus torulosa*, and is quite distinct from the two plants above-mentioned; I think it hardier and of much more rapid growth, but I may be mistaken.

Cedrus Deodara.—Even this hardy plant is injured with us, when exposed to the winter snow, and cold winds of spring, at too early a stage of its growth; but it recovers its green color and health as the season advances, only growing less luxuriantly from the checks.—(*Jour. of Hort.*, 1850, p. 633.)

CULTURE OF KALOSANTHES COCCINEA, (formerly *Crassula Coccinea*).—The *Kalosanthes coccinea* and varieties, as bedding-plants, cannot be excelled, either in beauty or the facility with which their cuttings are struck and brought into a flowering state. The immense and singularly compact head of bloom that can be obtained from each comparatively small plant, in about nine months from the time the cuttings are put in, combined with their rich color, renders them the most attractive plants in the parterre.

We will proceed at once to give our mode of cultivating the family for bedding purposes, knowing, from the numerous inquiries made about our mode of treatment, that many of our readers will appreciate any information on the subject; and those who have only seen these plants cultivated in pots, for exhibition, will, we are sure, be gratified to learn that they are equally beautiful when planted out in beds; for, when well managed, their fine compact appearance, and the size of the flower, far surpasses that of individual plants grown in pots. Any time about the end of September, we take some strong points of the growing shoots, and after forming them into cuttings of 2½ inches in length, cutting close to a joint, and stripping the leaves from the bottom for about ¾ of an inch, we lay them on the potting bench to dry for 24 hours. This is necessary, as from the extreme succulence of the plants they are apt to rot if put in at once.

Shallow pans or boxes 4 inches deep, and any convenient length and width, are prepared by putting in 2 inches of drainage, then a little moss or sphagnum, and over that some lumpy peat or loam an inch deep; and then an inch of sandy loam, fine lime rubbish and sand, well mixed and pressed closely down.

The cuttings should be put in about an inch or 1½ inch apart, and a slight watering given to settle the soil round them. Place them in any frame or pit, or even in the greenhouse, close to the glass, and they will strike freely, and continue rooting all the winter. The tops will not grow much if kept near the glass, and plenty of air is allowed to circulate about them; nor is it desirable, as the dwarfer the plants are, the more novel and beautiful they look.

In March prepare some compost for potting them, by mixing three parts sandy loam, some fine lime rubbish, a very little leaf soil, or lumpy peat and sand. Take the plants from the pans with little balls of soil, by raising them gently up with the potting-stick, and pot them singly in 4 inch pots well drained. Place them in a frame or pit, with their tops only 4 or 6 inches from the glass, and where the frost can be excluded; keeping the frame close for about a week or ten days; after which, they must be gradually in-

ured to a circulation of air. Tilting the sashes at the sides, by placing the tilter between them and the rafter, will be found to answer better than sliding, or only tilting at the back. The object is to give strength, without drawing the plants up, and by keeping the glass close to their tops, to cause them to set flower-buds, which they will readily do under such treatment; and by planting-out time, which with us is about the beginning of June, every plant, if well managed, will have its head of bloom perfectly formed, and beginning to expand.

Kalosanthes look best planted in circular or oval beds, placing the tallest in the centre, and gradually descending to the edge; the last row should be placed in the ground a little deeper than the rest, and should slightly incline outwards, in order to give a rounded appearance. Any good border soil seems to suit them; but if poor, some fresh loam and leaf soil should be added. We always water the plants well before turning them out of the pots, and the bed also when necessary. Some green moss laid upon the surface of the bed, gives it a neat appearance, and prevents evaporation.

It will be found that no plant which is so beautiful can be more easily managed; and when in flower, it always attracts more notice than anything else.—(*Gard. Chron.*, 1850, p. 614.)

NEW AND RARE ROSES OF THE PRESENT YEAR.—As the season for transplanting roses is now approaching, it may be interesting to some of your readers to know what novelties are to figure on the stage during the coming year. In offering a brief description of some of the finest modern roses, we would not altogether confine ourselves to those of the present year, surmising that many of the previous season are still rare and comparatively little known. The opinions as to the merits of the individual varieties, have been formed principally from plants bloomed at the Cheshunt Nurseries, although, during a recent tour of six weeks, we have seen the whole in flower in the most renowned nurseries in Belgium and France. Do not, however, let it be supposed that we are about to describe *all* the new roses: this would prove almost an endless task, and, in our opinion, scarcely worth the pains. Many we have seen, the names of which are not worth recording; others are of doubtful merit; and certain raisers assured us that they had splendid seedlings—*charming, superb*—but which, unfortunately for *Monsieur Anglais*, were not then in flower! It is, therefore, possible that we may have missed some of the “lions,” but we are resolved to introduce such only as we saw and considered of first merit, not wishing to perplex the cultivator with mere additions, unless they are also improvements. We may mention at the outset, that so little profitable have the French growers found the raising of summer roses, that they have almost abandoned this branch of culture. With the exception of Harriet Martineau, a superb white Damask rose, and Paul Ricaut, a crimson hybrid Bourbon, which is now familiar, at least by name, to most amateurs, we know of no stars in this one great division of the queen of flowers. For new roses we must turn to the autumnals, and among them, the hybrid Perpetuals have been the most productive of novelty. First on our list stands *Baronne Halex*, which is certainly a rose of merit. It has the same elegant foliage and

habit as *Madame Laffay*, from which we should think it a seedling; the flowers are larger, more double, deeper in color, and the petals much thicker. *Joan of Arc*, which belongs to the rare, rather than the quite new, is a first-rate rose, but a rather shy bloomer; the flowers are large and well formed; the ground color white, with rosy centre. *Soliel d'Austerlitz* is a showy brilliant-crimson rose, sometimes superb, but uncertain; this is more rare than new. *Belle Americaine* is a beautiful rose of American origin; the flowers are rose-color, with blush edges, and produced in great abundance; the form is unsurpassed; and the habit of growth dwarf. *Madame Guillot* has obtained a great reputation, greater perhaps than it deserves, but is still a pretty enough rosy-crimson, with very double flowers. *George Lecamus* is a greater favorite with us; the flowers are blush, large and full, and the form perfect. *Madame Pepin* is a very beautiful variety; the flowers are large and full, of a soft rose color; the back of the petals almost white. *Amandine* is of a delicate rose color, also large and full; the fastidious would probably complain of a little roughness often visible at the edges. *Berenger* is a purplish-crimson rose, distinct, large, and full; one of the few good ones recently received from Angers. *Princesse Joinville* is a pretty crimson variety, distinct in color and habit of growth. *General Negrier* is a beautiful blush rose, of globular form, one of the finest of the group, but a bad grower; this is also rare rather than new. Of the newest good hybrid *Perpetuals*, we may mention *Madame de Lamoriciere*; a pale-rose colored variety, worthy of a place in every collection; the form is cupped; it is a free grower; a constant and an abundant bloomer. *Nami* is also a rose of great merit; the color is blush, with rose centre; the form resembles that of *General Allard*, but it appears a better grower, and a more constant autumnal bloomer. This rose was originated at Rouen, and is at present but little known. *Caroline de Sansal* has bloomed magnificently at the Cheshunt Nurseries; the flowers were large and full as those of *Baronne Prevost*, their color blush, with rosy flesh centre; it is also of vigorous growth. *Chereau*, whose flowers are cherry-color when newly opened, gradually changing to rose, has also flowered well here. From flowers of this variety, seen on the Continent, I had formed an unfavorable opinion of this variety; but roses have their climates as well as seasons, and the best roses of England are not seen to the greatest advantage in France. We may add that the flowers of *Chereau* are large, full, and of fair form. *Lady Frances Waldegrave* is a pretty variety, of a light salmon crimson; the flowers are large and full, of good form, and produced in great abundance. *General Cavaignac* is much admired by the many, on account of its perfect form. The flowers are rosy pink, large and full. *Rosina Margottin* is a pretty rose, but resembles too closely the *Duchesse de Montpensier*; we doubt, moreover, whether it is an improvement on it. *General Changarnier* is a very large rose; the color is violet purple; it is showy, but somewhat coarse. *Leonore d'Este* is a pretty distinct flesh-colored variety, large and full, but apparently a rather shy grower. *Reine Mathilde* is well worthy of cultivation, if only for its color, which is of the freshest, softest pink; it partakes more of the Bourbon rose than any of the preceding, and

flowers very constantly. Comte Bobinsky is a remarkable rose in the way of Labedoyere, but more vigorous; it is, however, brighter in color than Geant des Batailles, and the nearest approach of any to scarlet. Standard of Marengo is a beautiful brilliant crimson variety, of the most perfect form, worthy of a place in the most limited collection. This completes our list of Hybrid Perpetuals; and we pass on to the Bourbons. We have here four varieties only, worth describing. The first is L'Aurore du Guide, a bold flower, very variable in color and quality; it is sometimes purplish crimson, opening shyly, at others crimson scarlet, in which state it is surpassingly beautiful. Apolline is a pretty delicate-shaded rose-color, a free grower, much in the strain of Pierre de St. Cyr. Henry Clay is a rosy carmine, large, full, and of fine form. Eugenie Brean, salmon color, something in the way of Madame Angelina, is a finely-shaped, full flower, but a small grower. It will prove a decided acquisition to the skilful cultivator. The Noisette roses are next on our list of novelties. Caroline Marniesse is tolerably well known, but it still ranks as one of the best of the recent Noisettes. Its color is creamy white, and the habit closely resembles that of the Sempervirens, of which, indeed, it is a hybrid, although blooming freely late in the autumn. Lais is a pretty novelty belonging to this group; the color is white; the flowers are not large, but they are full and of fine form. Of Tea-scented roses, Madame de St. Joseph, Delice de Plantier, Souvenir d'un Ami, and Vicomtesse de Cazes are too well known to need describing, although not so extensively cultivated as they deserve to be. The first-named was sent to this establishment a few years ago, by a small Continental grower, and is little known to other cultivators in England, and positively unknown in France. It is a superb rose, grown in a pot under glass, but of little merit out-of-doors. Madame de Salvandy is a large yellow rose, changing to buff, not new, but comparatively little known. Madame Villermoy is the only really new rose in this group, and it bears a high character on the Continent. We have not yet had an opportunity of seeing it flower in perfection in this country, but, from the flowers seen, should pronounce favorably on it. With a few remarks on the Perpetual Moss roses, we shall close this paper. Three only demand notice. First, Mauget, one of the loveliest roses in existence, but one of the most difficult to cultivate. It is of the softest rose-color, large, full, and finely shaped. The portrait of it in the "Rose Garden," is true in every respect. General Dinot is more recent, less beautiful, but easy of culture; the color is deeper, approaching to crimson purple, but the flower is semi-double. Herman Kegel is the most recent, and perhaps the best of this group. It is a free grower, similar in color to the last, but more double. The three last named are the best results of a long course of culture, with the view of obtaining autumnal moss roses, and they are unmistakably such.—(*Gard. Jour.*, 1850, p. 643.)

ON PRUNING ROSES.—"As regards the time for pruning, some recommend autumn or winter, while others advise its being done in the beginning of March;" Mr. M'Ardell prefers the latter season. "By winter pruning," he says, "the buds break in the latter part of the winter, and are almost sure to be cut off by late frosts in March. Pruning effects two objects, it makes compact, handsome trees, free from weak shoots and dead wood—it in-

creases the amount of floral beauty throughout the summer and autumn. It is susceptible of three divisions—first, long; second, moderate; and third, close pruning.

Long pruning is employed for all strong, vigorous, free-growing kinds. The consequence of a vigorous growing Rose being close pruned is, that it will make a quantity of strong shoots, generally springing from the crown close to the stock, and very likely no flower during the whole year, at all events, not until late in the autumn. The proper plan is to leave from five to eight strong shoots, placed as regularly as possible, to cut them back so as to leave four or five buds of last year's wood, and then carefully to prune away all weak and dead branches. Roses do not flower well in the centre of the bush, and therefore that part should be well thinned out, leaving the branches as free of each other as possible. As a general rule, it is not right to cut into the bush below the preceding year's wood; but when the trees become old, it is necessary now and then, to cut away a portion of the old wood, which becomes clubbed; and this applies more or less to all Rose trees. These remarks apply to most of the Hybrid Chinas and Hybrid Bourbons, also to some of the Hybrid Provence, Hybrid Perpetuals, and Bourbons.

Moderate pruning consists in using the knife more freely than in the former case, in leaving but two eyes of last year's wood, and in carefully training the branches, so as to make the head round and compact. As Roses that require moderate pruning, have a greater natural tendency to flower, than those in the last mentioned class, a little inattention is not so injurious to them. Under this head may be enumerated the greater part of our newest and best Roses, including the Moss, Gallica, Damask, Hybrid Damask, Perpetual, and a great portion of the best Hybrid Perpetuals, and Bourbons.

The third method, or close pruning system, is used for those Roses which are termed dwarf growers, or that make but little wood. This class is not numerous in comparison with the others, but it contains many of the brightest gems of the Rosery. They succeed better on dwarf stocks, than on those four or five feet high. In some cases they are shy growers, and apt to over-flower their strength. This is obviated by close pruning, as the strongest shoots come from the crown; and as it is the interest of the grower to get wood in this class, the last year's shoots should be cut away pretty freely. Under this head may be classed a few of the best Moss Roses, and many Hybrid Perpetuals, Damask Perpetuals, and some of the Bourbon tribe."—(*Hort. Jour.*, 1850, p. 668.)

PRUNING NEWLY PLANTED FRUIT TREES.—In an article which appeared in your valuable paper of the 28th of September, Mr. Cramb lays down a rule for planting and pruning fruit trees, which he says is not original. I certainly must confess it is quite new to me. Having considered the kind, situation, &c., says Mr. Cramb, a circular hole should be made three or four feet wide and one foot deep, the bottom of which should be made solid to prevent the roots entering the subsoil—the water too, I should suppose. I should like to know what kind of a tree it is that requires but one foot of soil in depth and say four feet in diameter, which gives little more than twelve

square feet of soil for the tree to grow in? Instead of but one foot, I say two, or at least eighteen inches next the wall, gradually falling to the front of the border, where a drain should be made the whole length of the border, three feet deep, to carry off excess of moisture. I agree with the bottom being made solid at that depth, but not at a less one. In pruning the roots, we are told to cut from the underside at a sharp angle. Now I think that the incision should be at an obtuse angle. Also we are told to paint our young plants where we cut their roots. Paint, of course, cannot be poisonous, or the parts touched with it would die, unless it should be one of those trees that have that tenacity of life which bears almost any amount of punishment; certainly that is not the peach. Newly planted trees should not be pruned until June, says Mr. Cramb. Now, with due respect to Mr. Cramb, I must beg to differ from him on that point, as our summers are not too long to ripen the wood of the peach or nectarine that is pruned in March, much less those that have to make their growth and ripen their wood after May: I say early in April is quite late enough to prune them. The directions contained in the latter part of his article, I have not seen practised, neither do I intend where I have the management.—[In a very light and very dry soil especially, the subsoil 18 inches, or even twice 18 inches deep, would be proper; but in soils where the subsoil is naturally cold and inclined to be wet, we suppose most gardeners would prefer the lesser depth, and this holds good with all kinds of trees. As a beginning this will do very well. Try again.]—(*Gard. Jour.*, 1850, p. 644.)

REMEDY FOR THE MEALY BUG.—Hereman's fluid and Kyle's liquid have been recommended for this purpose; but as a correspondent says of the latter, "he cannot get it." I do not know of any one who sells these mysterious compounds; but I can with confidence recommend a liquid free from mystery, and that may be applied with safety—spirits of wine. I first tried whiskey; afterwards I used spirits of wine, dipping the young shoots of justicias, clerodendrons, torenias, &c., into it, without their being injured in the least. I have also applied it with a feather and camel's hair pencil. As a trial, let two large mealy bugs be placed on a leaf, touch one with water, and the bug will remain dry and uninjured; touch the other with whiskey or spirits of wine, it will appear soaked through, die, and turn brown directly.—(*Gard. Chron.*, 1850, p. 550.)

PLUMBAGO LARPENTÆ AS A HERBACEOUS PLANT.—I am pleased to notice, by the *Journal* of September 28, that this little beauty is likely to become a favorite as a hardy herbaceous plant. It has proved hardy here; and not only so, but some suckers that happened to be left in the ground, when most of the plants were removed in the autumn, have sprang up and bloomed well. The plumbago was sown with mignonette this summer; and the fortuitous appearance of the blue flowers of the former have so much enhanced the beauty of the latter, that I venture to recommend that from henceforth every bed of mignonette be enlivened with a few plants of *Plumbago Larpentæ*. I also find the *Plumbago Larpentæ* useful for blooming in the conservatory from the latter end of August to October; and, when well grown, it is really a beautiful object.—(*Gard. Jour.*, 1850, p. 659.)

MR. SAUL'S NEW MODE OF BUDDING TREES.—What Mr. Saul calls his new mode of budding, is thus described :—"In budding, the top bud of the shoot should be commenced with, cutting from about one-eighth of an inch below the bud or eye, to from half an inch to an inch above it, in order that there may be a sufficiency of bark to hold with the fingers without nobbing the portion which is to be inserted. Take out the wood ; next make an incision in the shoot of the stock close into the main stem, and about half an inch long, this is long enough ; cut across at top, raise the bark with the end of the budding knife without bruising it, and insert the bud. It is now to be tied with a little worsted or cotton ; one tie below the eye, and two above, will be ample as its entire length will not be more than half an inch, and a quarter of that below the eye. The most inexperienced amateur need not give more than two rounds below the eye, and three above, but the practical workman will find the number stated to be sufficient." (*Jour. of Hort.*, 1850, p. 669.)

HOLLYHOCKS.—If I were not afraid of advancing a horticultural heresy, I should say that many amateurs prefer Hollyhocks to Dahlias. The Hollyhocks of Belgium and Germany had a great celebrity long before they appeared among us. The collections of the Prince of Salm Dyck, and of M. Van Houtte, of Ghent, have been much admired. In other places varieties have been obtained with leaves more or less lobed, more or less entire, more or less palmate, all with flowers large, full, or colored differently from those of other plants, being sometimes of a more or less dark mahogany color, at others of a delicate tint, and varying from the purest white to the darkest glossy black. Some progress has also been made in the cultivation of those plants by ourselves. Since 1830 M. Pelissier, Jun., a gentleman of Prado, has cultivated Hollyhocks, and from the seeds of a pink variety has succeeded in obtaining plants with flowers of a delicate rose color, and which, in consequence of the extreme delicacy of their tints, and regularity of form, may serve both to encourage perseverance and as a good type for seed. In the following year, from the seeds of pink flowers, he obtained a beautiful, brilliant, clean, sulphur-colored specimen, perfect in every respect. It is from the seeds of those two plants that he has obtained all the other beautiful and remarkable varieties which he now possesses, after a lapse of ten years from his first attempts. As a general rule, M. Pelissier prefers flowers with six exterior petals, with entire edges, well open, well set out, of a middling size, of a pure, clean, brilliant color, and forming a perfect Anemone. Seeds sown in the spring and in unwatered ground, never flower till the second year. Experience has shown that if the seeds are sown in September, and in earth which is kept fresh, flowers may be obtained in June or July following, which are in no way inferior to those of spring-sown seeds. M. Pelissier follows the following plan of procedure. The seeds, which are taken as soon as they are ripe, from good specimens, are sown in September, in a border a foot and a half deep, and composed of good coarsely sifted garden earth, mixed with well worked soil. The seeds, if they are covered lightly with leaf-mould, and the soil is kept fresh, begin to swell at the end of a week ; they require little care till spring, as they are not hurt by frost. In the spring the ground must be repicked, occasionally hoed

and frequently watered. As the flowers expand, M. Pelissier removes whatever is not conformable to the type he has chosen, or is not of a marked color, and like a perfect Anemone. It is by doing this every year that he has obtained 20 remarkable varieties, the names and characteristics of which have been kindly furnished by him, and are given below. 1. Souvenir de Malmaison, delicate rose, flower very full; perfection. 2. Géant de Batailles, red, flower very full. 3. Vestale, fine pure white, flower very full. 4. Anais, rose, flower very full; perfection. 5. Chromatella, dark yellow, flower very full. 6. Jeune Euphémie, clear red, flower beautiful, full; perfection. 7. Reine Victoria, cinnamon colored, shaded, flower very full. 8. Grand Peking, nankeen-colored, flower very full. 9. Amarante, dark red, flower very full. 10. Isabelle, dark red, flower very full. 11. Grand Colbert, dark rose, streaked, flower full, very perfect. 12. Marie Gabrielle, fleshy white, flower full; beautiful. 13. Matilde, clear cherry, flower very full. 14. Solfaterre, very clear yellow, flower very full. 15. Boule de Neige, beautiful white, flower well rounded, full. 16. Ophirie, yellow with a tint of pink, flower very full. 17. Arlequin, clear, approaching to dark violet, spotted with white. 18. Desprez, white, middle yellow. 19. Proserpine, very dark red, flower very full. 20. Pluton, black, flower very full.—(*Gard. Chron.*, 1850, p. 551.)

ART. II. Domestic Notices.

POMOLOGICAL CONVENTION AT ST. ALBANS, VT.—At the close of the Annual Fair of the Franklin County Agricultural Society, Vt., October 4, an informal meeting of gentlemen residing in the county was held for the examination and discussion of fruits suitable for cultivation in Lake Champlain. Quite a number of fruits were exhibited, and Mr. J. Battey, of Keeseville, N. Y., contributed a great variety of apples and pears. A report of the Convention, which was published in the St. Albans papers, has been sent to us; but we have no room now only to notice the meeting, and its good results. After the fruits had been fully discussed, it was voted that a HORTICULTURAL ASSOCIATION be formed for the Valley of Lake Champlain, and a committee was chosen to carry the same into effect. The following preamble and resolutions were unanimously adopted:—

Whereas, in the opinion of this Convention, the Horticultural interests of the Valley of Lake Champlain might be greatly promoted by the aid of a Horticultural Association;

And whereas, the admirable adaptation of our soil and climate to the varied pursuits of horticulture—the enterprise and intelligence of our cultivators—the proximity of most of our large villages to the Lake, and the consequent facility of communication between them—and the growing taste for horticultural pursuits amongst us,—conspire to urge, not only the utility of such an institution, when once properly organized and in successful operation, but also the *practicability* of accomplishing that object: therefore,

Resolved, That a Committee, consisting of nine gentlemen from the differ-

ent counties bordering on the Lake, be appointed by this Convention, to make the necessary arrangements, and issue a call for a Convention, to be held at such time and place as they may think proper,—for the purpose of organizing a Horticultural Society for the Valley of Lake Champlain.

The following named gentlemen were then unanimously appointed such Committee: Jonathan Battey, Keeseville; Hon. Henry Ross, Essex; Hon. John H. Boyd, Whitehall; Prof. E. S. Carr, Castleton; Albert Chapman, Middlebury; Chauncy Goodrich, Burlington; Jasper Curtis, St. Albans; A. J. Moses, Champlain; Stephen Macomber, Grand Isle. The Convention then adjourned.—*Ed.*

CINCINNATI HORTICULTURAL SOCIETY'S ANNUAL EXHIBITION.—From the reports of this exhibition, which reach us through the Cincinnati papers, it was remarkably successful, and the display of flowers, rare plants and fruits, exceeded by far any previous exhibition of the Society. Gentlemen from the East, who had attended the shows of the Massachusetts Horticultural Society, hesitated not to pronounce the Exhibition superior to anything they had ever witnessed. The *Gazette* says:

The ornamental handiwork presented an agreeable and attractive feature of the Horticultural rooms. Great labor and pains have been bestowed in arranging the most fantastic combinations of all the varieties of beautiful flowers. We are not aware to whom this credit is due, but the individual in question may entertain the pleasing reflection that this exhibition of ingenuity and taste has not been unrewarded by the appreciating throng which has visited this delightful place of resort.

We do not feel at liberty to omit this opportunity of paying a tribute to the taste of Miss Rebecca Orange and Mr. R. Davis, who added much to the attractions of these rooms by their tasteful and elegant plans of cottages and gardens, in which were arranged pools of water, shells, flowers, and many other well conceived accompaniments.

At the close of the exhibition the articles displayed were sold at auction, yielding the handsome sum of *six hundred* dollars. The admission fees amounted to *one thousand*, thus making the entire receipts *sixteen* hundred dollars. The official report has not come to hand; if it reaches us in season we shall notice it in our next.—*Ed.*

ART. III. *Albany and Rensselaer Horticultural Society.*

Annual Exhibition for 1850.—September 18. In accordance with the programme for meetings for 1850, the Society met at the Agricultural Hall, on Wednesday the 18th instant, V. P. Douw, Esq., its President, in the chair. This being the annual autumnal exhibition, the rooms were kept open for public inspection during Wednesday, Thursday and Friday, and were visited by large numbers of ladies and gentlemen of the city and its vicinity. The display was rich and very interesting, surpassing any which have preceded it in the extent of new varieties of fruits, flowers and vegeta-

bles, and evincing the gratifying fact that our growers, both professional and amateur, are constantly on the qui vive, to introduce both from home and abroad all that is new and valuable.

FRUITS.—The principal exhibitors of fruits were V. P. Douw, who exhibited 18 varieties of pears. Dr. Wendell, 34 varieties of pears. Isaac Denniston, 22 varieties of plums. E. P. Prentice, 25 varieties of apples. E. Dorr, 12 varieties of plums. Wilson, Thorburn & Teller, 45 varieties of pears. Mr. R. Manning, of Salem, sent specimens of the Wendell pear, a new seedling, raised by the late Dr. Van Mons, of Belgium. The thanks of the Society were tendered to Mr. Manning for his contribution. The premiums were awarded as follows:—

APPLES.—For the best and most extensive collection, 32 varieties, E. P. Prentice, \$3.

For the second best and most extensive collection, 21 varieties, Wilson, Thorburn & Teller, \$2.

For the best one variety exhibited, R. I. Greening, M. V. B. Schryver, \$1.

PEARS.—For the best and most extensive collection, 53 varieties, Wilson, Thorburn & Teller, \$3.

For the second best and second most extensive collection, 34 varieties, Dr. H. Wendell, \$2.

For the best six varieties—White Doyenné, Seckel, Flemish Beauty, Beurré Bosc, Louise Bonne of Jersey, and Beurré d'Arenberg—to V. P. Douw, \$2.

For the best one variety, to Wilson, Thorburn & Teller—White Doyenné—\$1.

[The rule required that six specimens should be shown; many others exhibited very fine specimens of this variety, but not in sufficient numbers to enable them to compete.]

PEACHES.—For the best and most extensive collection, to Dr. A. March, for 12 varieties, \$3.

For second best and second most extensive collection, to Wilson, Thorburn & Teller, for 8 varieties, \$2.

For best three varieties, to E. Dorr for President, Morris Red Rarripe and Crawford's Late, \$1.

For best one variety, to L. Menand for George IV., \$1.

PLUMS.—For the best and most extensive collection, to Isaac Denniston, twenty-three varieties, \$3.

For the second best and second most extensive collection, to E. Dorr, twelve varieties, \$2.

For the best one variety, six specimens exhibited, to I. Denniston, Esq., for Reine Claude, \$1.

NECTARINES.—For the best one variety, six specimens to be exhibited, to V. P. Douw, for Newington, \$1.

[The other premiums offered were not competed for.]

GRAPES.—*Foreign*, for the best two varieties exhibited, three of each variety, to V. P. Douw, for Golden Chasselas and Miller's Burgundy.

[The other premiums offered were not competed for.]

GRAPES, Native, for the best collection, to E. Dorr, for four varieties, \$3.

For the best two varieties, to Erastus Pease, for Catawbas and Isabellas, \$2.

WATER MELONS—For the best two varieties, to V. P. Douw, for Joppa and Spanish, \$2.

[The others offered were not considered worthy of premium.]

MUSK MELONS—For the best one variety, L. Menand, for Green Citrons, \$1.

[The other varieties offered were not deemed worthy of premiums.]

FLORAL DESIGNS, BOUQUETS, &c.—The committee report that there was exhibited, by J. Dingwall, a splendid floral design, in antique form, four feet in height, composed of choice flowers, and having beautiful petit bouquets placed on each corner, to which the premium of \$3 is awarded.

By N. Tillman, from Dr. Wendell's garden, a rustic temple in gothic form, nine feet in height, elevated on a platform five feet square, covered with green moss; the interior ceiling was covered with gay flowers artistically arranged, and over each angle and the roof, creeping vines of Cobæa scandens and Maurandia Barclayana were trained; these vines were growing in pots, which were secreted in the moss platform; \$2 to this design.

By Wm. Newcomb, a beautiful flat floral ornament, arranged with taste and composed of choice flowers, \$2.

By J. Wilson, twenty vase bouquets, composed of dahlias, roses, &c., beautifully arranged, for which he will receive the thanks of the society. Three round hand bouquets, most exquisitely arranged, composed of rare and beautiful exotics, \$1. Two flat hand bouquets, arranged with like taste and skill, and composed of equally rare and beautiful flowers, to one of which \$1 is awarded.

By J. Rathbone, a large round vase bouquet, most beautifully arranged, and composed of rare exotics, as stephanotus, hoyas, pelargoniums, fuchsias, &c. &c., \$2.

By L. Menand, a basket bouquet, composed of rare and beautiful flowers most exquisitely arranged, \$2.

GREENHOUSE PLANTS AND FLOWERS.—The principal exhibitor was Mr. L. Menand, who was awarded the prize of \$2.

A great number of dahlias were shown by Messrs. Briggs, Newcomb, Wilson, Menand, and E. Corning, Esq.; Dr. Wendell also displayed a lot of phloxes, including some superb seedlings. The premiums were awarded as follows:—

DAHLIAS—For the best display, to N. Briggs, \$3.

For the best twelve dissimilar blooms, to N. Briggs, for Constantia, Lady Sale, Viscount Ressigneur, Admiral Stopford, McKenzie's Perfection, Miss Chaplain, Arethusa, Caleb Cope, Rainbow, Ultimatum, Madam Zahler, and Toison D'Or, \$2.

For the best six dissimilar blooms, to N. Briggs, for Toison D'Or, Arethusa, Madam Zahler, Rainbow, Lady Sale and Princess Radzville, \$1.

For the best flower, specimen bloom, to J. Wilson, for Princess Radzville, \$1.

ROSES.—For the best ten varieties, to L. Menand, for *La Reine*, *Souvenir de Malmaison*, *Bougere*, *Eugene Beauharnois*, *Aimee Vibert*, *Geante des Batailles*, *Devoniensis*, *Marquis Boccella*, *Hermosa* and *Chromatella*, \$2.

VERBENAS.—For the best twelve varieties, to N. Briggs, for *Robinson's Defiance*, *Eclipse*, *Roseum superbum*, *Queen*, *Polkii*, *Beauty Supreme*, *Suzette*, *Buist's new Blue*, *Fire Ball*, *Variiegata*, *Monk's Purple*, and *Virginal*, \$2.

For the best six varieties, to D. T. Vail, for *Robinson's Defiance*, *Beauty Supreme*, *Polkii*, *Queen*, *Eclipse*, and *Suzette*, \$1.

For the best seedling, never before exhibited, to N. Tillman, from Dr. Wendell's garden, \$1.

PELOXES.—For the best ten varieties, to N. Tillman, from Dr. Wendell's garden, for *Reine de Jour*, *Princess Marianne*, *Anais Chauviere*, *Blanc de Neuilly*, *Dodonize*, *Mazeppa*, *Fleur de Marie*, *Rosea superba*, *Auguste*, and *Almerine*, \$2.

For the best seedling, never before exhibited, to J. Wilson, \$1.

ASTERS.—For the best display, to Wm. Newcomb, of Pittstown, \$2.

For the second best, to J. Wilson, of Albany, \$1.

VEGETABLES.—There was a fine display, and the following premiums were awarded:—

For the best new Seedling potatoes, the premium is awarded to Dr. H. Wendell, for very fine specimens; fifteen varieties exhibited, \$2.

For best squashes, to E. P. Prentice, for variety *Vegetable Marrow*, \$1.

For best long blood beets, to V. P. Duow.

For best carrots, to D. Watts, Altringham, \$1.

For best egg plant fruit, to V. P. Duow, purple, \$1.

For best celery, to N. Tillman, *Seymour's White Giant*, \$1.

For best winter cabbage, *Drumhead*, \$1.

For the best half peck of tomatoes, to J. Dingwall, \$1.

For the best exhibition of tomatoes, to Erastus Corning, Jun., \$1.

For the best six specimens of *martynias*, to Wm. Newcomb, \$1.

For the best specimens of okra, to V. P. Douw, \$1.

ART. IV. *Massachusetts Horticultural Society.*

Saturday, September 21, 1850.—An adjourned meeting of the Society was held to-day,—the President in the chair.

The thanks of the Society were voted to the Committee of Arrangements for the very acceptable manner in which they had performed their duties.

Voted, That a committee be appointed to cause an inventory to be made of the glass ware, baskets, &c., belonging to the Society, and that no person be allowed to carry any article of furniture away from the Hall. J. Breck, C. M. Hovey, and Jos. Lovett, were appointed the committee.

A committee of three, consisting of Jos. Lovett, Jos. Breck, and E. Wight, was appointed to nominate a list of officers for the ensuing year.

It was voted that, hereafter, the Society shall not loan any part of its furniture, glass ware, baskets, &c.

Adjourned one week to September 28.

September 28.—An adjourned meeting of the Society was held to-day,—the President in the chair.

No business of importance was transacted, and the meeting was dissolved.

Exhibited.—FLOWERS: The exhibition of Dahlias for premiums took place to-day, and some very fine flowers were put up. The competitors were not so numerous as we had expected, nor the flowers so good, as a whole, as we had anticipated from the cool moist summer. Very few of the fine new sorts were shown; the principal were *Mad. Zahler*, Queen of the East, *Buffalo Girl*, and *Florence Dombey*, in the collection of Messrs. Hovey, and Mr. Seldon in the stand of Mr. Spear. We give the names of the flowers in the various stands.

The principal exhibitors were Messrs. Hovey & Co., P. Barnes, J. W. Brown, Gen. H. K. Oliver, Jas. Nugent, J. Gordon, L. Davenport, S. Sweetser, Isaac Spear, C. A. Hewens, J. Hovey, A. Bowditch and others.

PREMIUMS AND GRATUITIES AWARDED.

DAHLIAS.—In divisions and classes as follows:—

DIVISION A.

PREMIER PRIZE.—To P. Barnes, for the best twelve dissimilar flowers, the Society's silver medal, \$5:—for *Toison d'Or*, *Miss Vyse*, *Beeswing*, *Andromeda*, *Antagonist*, *Miss Blackmore*, *Great Mogul*, *Louis Philippe*, *Mr. Seldon*, *Arethusa*, *Lady Sale*.

SPECIMEN BLOOM.—To J. Gordon, for Mr. Seldon, \$3.

SPECIMEN BLOOMS OF VARIOUS COLORS.—*Best Yellow*, to C. A. Hewens, for *Cleopatra*; *Rose*, to J. Nugent, for *Lady Cooper*; *Tipped*, to Hovey & Co., for *Miss Vyse*; *Red*, to Hovey & Co., for *Beeswing*; *Scarlet*, to Hovey & Co., for *Boule de Feu*; *Buff*, to Hovey & Co., for *Toison d'Or*; *Dark*, to Hovey & Co., for *Admiral Stopford*; *Crimson*, to J. Hovey, for *Marshal Soult*; *Maroon*, to I. Spear, for *Arethusa*; *White*, to P. Barnes, for *Antagonist*; *Orange*, to I. Spear, for *Latour l'Auvergne*.

DIVISION B.

CLASS I.—For the best twenty-four dissimilar blooms, to Hovey & Co., \$7, for *Marquis of Aylesbury*, *Beeswing*, *Minn*, *Pickwick*, *Mad. Wachy*, *Cleopatra*, *Florence Dombey*, *Miss Blackmore*, *Baron Frettan*, *Buffalo Girl*, *Viscount Resegneur*, *Henry Clay*, *Hamlet*, *Imbricata*, *Queen of the French*, *Remembrancer*, *Mad. Zahler*, *Lady of the Lake*, *Miss Vyse*, *Arethusa*, *Gem (Oakley's)*, *Argo*, *Mrs. Shaw Le Fevre*, and *Essex Triumph*.

For the second best, to P. Barnes, \$5. (No names received.)

CLASS II.—For the best eighteen dissimilar blooms, to Hovey & Co., \$6, for *Toison d'Or*, *Miss Vyse*, *Beeswing*, *Gem*, *Marquis of Aylesbury*, *Mimosa*, *Baron Frettan*, *Mad. Wachy*, *Viscount Resegneur*, *Miss Halleck*, *Buffalo Girl*, *Mad. Zahler*, *Hamlet*, *Pickwick*, *Minn*, *Princess Radzville*, *Hertha*, and *Queen of the French*.

For the second best, to P. Barnes, \$4.

CLASS III.—For the best twelve dissimilar blooms, to Hovey & Co., \$5, for Minn, Essex Triumph, Louis Philippe, Lady of the Lake, Baron Frettan, Miss Vyse, Buffalo Girl, Pickwick, Constantia, Andromeda, Hermione, Mad. Wachy.

For the second best, to J. Gordon, \$3:

FRUIT: From J. P. Cushing, specimens of the following pears, from trees in various situations, as indicated: Doyenné Gris, under glass, and from a wall; D. Blanc, from espalier and standard; Beurré Bosc, from a wall; Urbaniste, from espaliers and standard; Brown Beurré, wall, espalier and standard; Althorpe Crassane, espalier; Edwards's Elizabeth, espalier; Belle Lucrative, wall and espalier; Gansell's Bergamot, wall; Winter Nelis, wall; Beurré Diel, wall; Styrian, wall; Dix, standard; Andrews, espalier and standard; Spice, standard; D'Aranville, received from W. Kenrick; Catillac, standard; Las Canas, standard; St. Andre, espalier. Many of them were not in eating, but all the specimens were finely grown.

From O. Pettee, thirty-three seedling peaches, some of them very good. From S. Sweetser, Louise Bonne of Jersey, Bartlett, and one kind, unnamed. J. Gordon, Andrews pears, fine. F. Dana, Andrews pears, superior. G. Merriam, Morris White peaches. E. Cleaves, Beurré Bosc, fine. O. N. Towne, Brown Beurré, Duchess of Angouleme, Beurré Diel, and Columbia pears; also Roman Nectarines. A. W. Stetson, Isabella grapes. F. Tudor, Seedling peaches, very fine. W. Monroe, fine Seedling peaches. W. Frost, Beurré d'Arenberg pears, and three sorts, unknown; also peaches and apples, unnamed. S. Driver, Beurré Bosc, Seckel, Andrews, and Winter Nelis pears, all good. Hovey & Co., Brunswick, Brown Turkey, White Marseilles, White and Brown Ischia figs. Geo. Walsh, fine Bartlett pears, and Imperial Gage and Damson plums. Mrs. Crehore, Diana grapes, very fine. Winship & Co., Filberts and Medlars.

Fruits tested by the Committee. Seedling peaches, called Mary, from W. Munroe, Concord, of great beauty and fine quality.

Oct. 5.—The stated quarterly meeting of the Society was held to-day,—the President in the chair.

The choice of officers for the ensuing year took place to-day, and the following persons were elected:—

President—Samuel Walker.

Vice Presidents—Benjamin V. French, Cheever Newhall, Edward M. Richards, Joseph S. Cabot.

Treasurer—William R. Austin.

Corresponding Secretary—Eben. Wight.

Recording Secretary—Daniel Leach.

Professor of Botany and Vegetable Physiology—John Lewis Russell.

Professor of Entomology—T. W. Harris, M. D.

Professor of Horticultural Chemistry—E. N. Horsford.

Committee on Fruits—Joseph S. Cabot, Chairman: Eben. Wight, Josiah Lovett, Joseph Breck, C. M. Hovey, J. S. Sleeper, W. C. Strong.

Committee on Flowers—David Haggerston, Chairman: Alex. McLellan,

E. A. Story, F. Lyman Winship, H. W. Dutton, Parker Barnes, Azell Bowditch.

Committee on Vegetables—Aaron D. Weld, Chairman: Augustus Parker, James Nugent, S. W. Cole, A. B. Moore, A. D. Williams, D. T. Curtis.

Committee on Library—C. M. Hovey, Chairman: H. W. Dutton, R. M. Copeland, Joseph Breck, Geo. Wilson.

Committee on Synonyms of Fruit—M. P. Wilder, Chairman: P. B. Hovey, Robert Manning, Josiah Lovett, J. S. Cabot.

Executive Committee—The President, Chairman: the Treasurer, Marshall P. Wilder, E. M. Richards, Otis Johnson.

Committee for establishing Premiums—J. S. Cabot, D. Haggerston, A. D. Weld, Josiah Lovett, P. B. Hovey.

Finance Committee—Marshall P. Wilder, Chairman: Josiah Stickney, Otis Johnson.

Committee on Publication—Eben. Wight, Chairman: Josiah Lovett, Joseph Breck, T. Leach, J. S. Cabot, D. Haggerston, A. D. Weld.

Committee on Gardens—Jos. S. Cabot, Chairman: Joseph Breck, W. R. Austin, A. D. Weld, Josiah Lovett.

Samuel Frothingham, Jr., of Milton Hill, and Nathan Durfee, of Fall River, were elected subscription members.

The thanks of the Society were presented to the American Institute for a copy of their *Journal*.

Adjourned four weeks to November 2.

Exhibited.—**FRUIT:** From F. Tader, Swan's Orange, Louise Bonne of Jersey, Duchesse of Angoulême, Bize de la Motte, Glout Morceau, and Columbia, all very superior specimens, raised at Nahant; also, apples, probably the Fall Jenneting. Josiah Lovett, Drap d'Or, Porter, Dutch Codlin, Gravenstein, and Oliphant (?) apples, all fine. J. G. Gunderson, Ribston Pippin apples. M. S. Lincoln, Duchesse of Angoulême. H. Howe, Marie Louise, fine. F. Dana, Louise Bonne of Jersey, fine. J. Mann, Flemish Beauty, and Beurré Bosc pears, fine; also, apple quinces. B. D. Emerson, fine Black Hamburg grapes. G. Merriam, Crawford's Late peaches. J. Gordon, Buffum, White Doyenné, Brown Beurré, and Croft Castle pears, all fine; also, Hubbardston Nonsuch apples, and Coe's Golden Drop plums, very superior. J. Washburn, Orange quinces.

From O. Johnson, fine Urbaniste pears, and Black Hamburg grapes. W. C. Strong, Chasselas Musqué, White Chasselas, Esperione, St. Peters, Red Chasselas, Black Prince, Zinfindal, Black Muscat, (?) Grizzly Frontignan, and Black Hamburg grapes, all good. J. S. Sleeper, Louise Bonne of Jersey, Glout Morceau, White Doyenné, Seckel, Buffum, Beurré Diel, and Passe Colmar pears, all fine. E. Cleaves, Black Hamburg and White Frontignan grapes, fine. S. Driver, Beurré Bosc and Seckel pears. H. Vandine, Buffum, Flemish Beauty, Seckel, and two other sorts pears; very fine Coe's Golden Drop and Egg plums, and Porter apples. F. King, very fine Coe's Golden Drop plums. J. Hyde & Son, Crawford's Late peaches, and Collins' pears, from the original tree in Watertown. Unnamed fruits were exhibited by several contributors.

Fruits tested by the Committee. Oliphant (?) apple, from J. Lovett, large, tender, and fine quality. Collins' seedling pears, melting, juicy and fine. Reine Claude de Bavay plums, from M. P. Wilder, sweet and very fine.

Oct. 12.—Exhibited.—*Fruits*: From Henry Vandine, pears, Buffum, finely colored, Flemish Beauty, Marie Louise, Seckel; plums, Coe's Golden Drop. A. Emerson, apples, Duchess of Oldenburgh, and one dish for a name. J. Stickney, peaches in variety. G. Merriam, peaches, Crawford's Late, Bergen's Yellow. A. Denton, pears, Beurré d'Amanlis. J. J. Low, pears, Beurré Diel, Beurré Bosc. C. E. Grant, peaches in variety; quinces, fine; grapes, Isabella. A. W. Stetson, grapes, Isabella. W. C. Strong, grapes, Black Hamburg, Gascoigne, Black Muscat (?), Rose Chasselas, Grizzly Frontignan, St. Peters, Zinfindal. E. Wight, apples, Northern Spy. This was the first exhibition of this apple grown here; the specimens from a graft four years old. E. Jackson, pears, Louise Bonne of Jersey. J. Dane, pears, Beurré Diel, Napoleon, Louise Bonne of Jersey, and Beurré Portugal (?). O. Johnson, apples, of a large size, good appearance, and presumed to be a seedling. [Probably the Fall Jenneking.] B. D. Emerson, grapes, Sweet Water, Black Hamburg. Ezra Cleaves, plum, Coe's Golden Drop; grapes, Sweet Water, Black Hamburg. J. F. Allen, pears, Seckel; grapes, Bishop, fine, Wilmot's new Black Hamburg, Golden Chasselas, De Candolle. J. S. Sleeper, pears, Dix, fine, Louise Bonne of Jersey. L. Bell, apples, Seaver's Sweet. F. King, peaches and plums. Josiah Lovett, pears, Paradise of Automne, fine.

Oct. 19.—Exhibited.—*Fruits*: From F. Tudor, very fine Duchess of Angouleme and Swan's Orange pears, fully mature. H. Vandine, Flemish Beauty, Buffum, Seckel, Pitt's Prolific and Marie Louise, very fine; also, Blue Imperatrice plums, Miller's Burgundy grapes, and Orange and Portugal quinces. D. Beal, Black Hamburg grapes, open culture, good size, but not fully mature. C. Weston, Plymouth, Glout Morceau, Henry IV, Dix and Pitt's Prolific; also, English Russet and Holton's Sweeting apples. J. Washburn, Marie Louise, Henry IV, and Pitt's Prolific pears; also, Portugal, Orange, and Seedling quinces. J. F. Allen, one Beurré Bosc pear, weighing 12½ ounces. C. E. Grant, good Isabella grapes. E. Cleaves, Beurré de Capiaumont pears. C. H. P. Plympton, White Doyenné pears. F. Dana, very fine Duchess of Angouleme, Beurré Diel, Winter Nelis and Monarch pears, and Orange quinces. J. S. Sleeper, Catillac pears and Hubbardston Nonsuch apples. E. Smith, fine Easter Beurré pears. E. Cheever, Coe's Golden Drop plums. O. N. Towne, Autumn Bergamot and Lawrence pears. S. Downer, Jr., Belle Lucrative pears. B. Guild, St. Germain and White Doyenné pears. M. P. Wilder, Frederica Bremer pears, from J. C. Hastings, Clinton, N. Y.; and Sheldon pears, from Clyde, Wayne Co., N. Y. A. Emerson, Duchess of Oldenburgh apples. Fruits for name, from J. H. Eastburn, J. J. Low and others.

Fruits tested by the Committee: Swan's orange, from F. Tudor and Hovey & Co., proved unusually high flavored. Beurré Sprin, from J. Lovett, fine flavor. Grapes, from N. Longworth, among them a seedling, which, if it ripens early, may prove a desirable variety.

HORTICULTURAL OPERATIONS**FOR NOVEMBER.****FRUIT DEPARTMENT.**

GRAPE VINES will now require but little attention. The leaves will now be falling rapidly, and the wood should now be nearly ripe; if this is not the case, air the house freely in all fair weather, and where there are means for heating, light fires may be kindled on cool nights. But in cold-houses this cannot be done, and all depends upon giving air. Dispense with all watering, and pick off the leaves as fast as they assume a yellow hue. Outdoor grapes may now be partially pruned, cutting away all wood which does not now show signs of ripening. The tender sorts should then be covered up with straw, manure, or soil. Vines in pots should be protected in frames.

GOOSEBERRY AND CURRANT BUSHES may now be set out, and if the work is well done, they will produce some fruit next year.

RASPBERRY PLANTATIONS may now be made. As soon as cold weather approaches, both new and old beds should be protected by covering the canes with earth or manure.

FRUIT TREES, of all sorts, may now be transplanted with much better success than in spring; there is now more time to attend to it and do the work thoroughly. It is an operation which will not bear shamming. Now is a good time to clean the bark, and wash with whale oil soap.

GUAVAS, now ripening their crop, should be sparingly watered.

CANKER WORM GRUBS will now begin to ascend the trees, and care should be taken to prevent it by tarring around the trees. This, if thoroughly done, will entrap every insect.

FLOWER DEPARTMENT.

CAMELLIAS, now removed to the house, will begin to bloom. If it is desirable to have them appear to the best advantage, all the leaves should be carefully washed; the foliage will then look green, glossy, healthy and rich, setting off the colors of the flowers to better advantage. Cuttings may now be put in.

CHRYSANTHEMUMS, now coming into bloom, should be watered with liquid guano.

DAHLIAS should now be taken up and placed in the cellar, out of the reach of frost.

VERBENAS may still be propagated from cuttings and layers.

JAPAN LILIES should be planted in the open ground this month; they are perfectly hardy. Those in pots should be kept in a cool situation.

TULIPS, HYACINTHS, NARCISSUS, and other hardy spring bulbs, should now be planted.

CARNATIONS for winter blooming, should now be repotted; choice kinds to be wintered in frames, should be protected with leaves and boards or sashes, to keep off heavy rains.

PANSY SEEDS may be now sown in boxes in a frame, for spring stock.

ROCKET LARKSPUR SEED may now be sown in the open ground, for early blooming in spring.

SCHIZANTHUSES will now require another potting.

CINERARIAS should now be repotted.

TROPEOLUM LOBBIANUM should now be put into the pot in which it is to bloom.

DOUBLE FEATHERFEWS should now be taken up and potted, for winter blooming.

OXALISES AND SPARAXIS may yet be potted.

GLADIOLUSES, TIGER FLOWERS, and other tender bulbs, should be taken up before severe frosts.

ROSES, of tender kinds, should all be taken up this month; Perpetuals and Bourbons, in the open ground, if in a well-drained situation, with a little covering, will stand the winter without injury.

CHINESE PRIMROSES should now be repotted, if they require it.

ERICAS may be propagated now with success.

CACTUSES should now be sparingly watered, except *Epiphyllum truncatum* and its varieties.

PELARGONIUMS, from late cuttings, should now be shifted into 4 inch pots, keeping them as cool as possible.

FINE PETUNIAS should be propagated from cuttings.

SWEET ALYSSUM, in pots, may have a shift into a larger size.

NEMOPHILAS should have a shift into the next sized pots.

MIGNONETTE in pots, should be rather sparingly watered at this season.

PERENNIAL PLANTS may yet be successfully reset.

TORENIA ASIATICA should be kept in a warm part of the greenhouse.

PEONIES may still be removed with safety.

DAISIES should be protected in frames.

AURICULAS AND POLYANTHUSES may also be protected in frames.

HELIOTROPES should now be repotted, if they require it.

ABUTILONS taken up from the ground and placed in boxes, in a cellar, and set out again in the spring, will make very showy ornaments all the season.

CALCEOLARIAS will now need a shift, if the pots are full of roots.

HYDRANGEAS should be wintered in frames, or in the cellar.

CALLAS may now have larger pots, if they require it.

ACACIAS, now coming into bloom, may be occasionally watered with guano.

HALF HARDY shrubs or plants, should now be protected from frost, by coverings of straw or thatch. Magnolias, camellias, some sorts of spiræas, roses, &c., will require it, as well as some of the new pines, until they get well established.

GREENHOUSE PLANTS, of all sorts, will require attention,—such as pruning, tying up, top dressing, &c.

THE MAGAZINE OF HORTICULTURE.

DECEMBER, 1850.

ORIGINAL COMMUNICATIONS.

ART. I. *Some Account of the Production of the Old Colony Sweet Corn, its Culture, &c.* By Rev. A. R. POPE, Somerville.

MR. EDITOR,—I cheerfully comply with your request for the details of the culture of the *Old Colony Sweet Corn*, which commanded the favorable notice of the Horticultural Society's Committee at the Annual Exhibition.

It is a hybrid, as any one can readily perceive by inspection, from the Southern White, and the common Sweet corn of New England; and exhibits certain characteristics of the two varieties, combining the size of the ear and kernel, and productiveness of the southern, with the sweetness and tenderness of the northern parent;—a *southern* head, *rara avis*, with *northern* principles! Indeed, nature seems to have rewarded the effort to improve her productions, by giving more than an even share of the desirable qualities for table use.

The process by which it was attained will date as far back as 1845, when a single kernel, which escaped the denizens of the barn-yard, was carried with the compost to my garden in Kingston, (Old Colony,) and springing up, was permitted, for the novelty, to develop its nature in a huge stalk, bearing upon it, more or less matured, five ears of corn, one of the ears having eighteen rows!

The productiveness, combined with the extraordinary size

of the ear and kernel, suggested the plan of seeding the cob, when better acclimated, with Sweet corn. A few hills, planted in 1846, ripened their ears well, and sufficiently early to settle the question of acclimation.

In 1847, a few hills were again planted in a favorable place; and at the proper time, before the anthers had burst, the stamens, or spindles, were carefully removed. As soon as the pistils, or silk, seemed in a mature state, the opening stamens of Sweet corn stalks were carefully brought, and the pollen from them gently shaken upon the pistils. The result was successful so far as the experiment was carefully pursued. At the time of harvesting, more than one half of the kernels bore all the ordinary outward appearances of Sweet corn, and had the sweetness peculiar to that variety, but taking the shape and size natural to the cob on which they were grown.

It then remained, as you will perceive, to ascertain by experiment whether a hybrid or a mule had been produced; or, whether the new kernels were capable of reproducing themselves in color and taste, and yet retain for the new plants the advantages of a combination of the specific traits of the female parent, or would run back, as accidental mixtures often do, to one or the other of the originals. In 1848, twenty-five hills were planted of the Sweet corn kernels, selected from three ears, and all seemingly perfectly alike. Before midsummer it was apparent that stalks from the same ear, and in the same hill, were very different in character; some of them being inclined to run up to the great height of the Southern White, and marked with all the distinctive peculiarities of that variety, while others seemed to be dwarfed, and quite inferior specimens of the other side of the house. A few only, perhaps not more than four or five stalks, were neither the one nor the other in size and appearance, and upon these I fixed as probably truly hybridized. The others were removed as soon as their characters seemed settled, but not quite soon enough to prevent a partial seeding of the remaining stalks by the Southern White, as was seen in the autumn.

In 1849, I had the satisfaction of partaking of an excellent and new variety of Sweet corn, with sixteen and eighteen rows upon an ear! and in the autumn, gathered for seed several ears of similar size, without any indication upon them of the traces of the Southern White, except in the unusual size and number of the kernels. The specimens which received this year the commendation of the Committee of the Massachusetts Horticultural Society, were of the second planting, (an uninvited horse having regaled himself upon the first,) and contained each but fourteen rows. I herewith send you a couple of specimens of sixteen each; and reserve some for myself of even larger pretensions, one of which measures eight inches and one eighth in circumference, and contains twenty rows.

The quality may be satisfactorily tested in the matured state; and will not be found in sweetness inferior to any, I think. The stalks, as you had the opportunity of seeing, were very large, averaging from ten to twelve feet in height, of corresponding circumference. They are also furnished with brace roots, (never, I believe, found upon Sweet corn,) and the pistils are *invariably* green, and not pink, as in the Southern White. Its size seems to require a long season, which will make it late; but I have given it no fair trial as to earliness. In productiveness, it will defy all table-corn with which I am acquainted; and had the season permitted, I would have shown you a single stalk, planted after the middle of June, having upon it six ears, in various stages of growth; but the frost came too soon, my garden having been touched by the earliest. Its height, and the weight of the ears, which were not formed this year at less than four or five feet from the ground,—a circumstance of some importance to those who, *for neighborly regard*, unhappily *keep* fowls which they happily do not *own*,—indicate the effect of high winds in exposed situations unless properly hilled.

I have made this communication unwittingly long, but you must employ your editorial scissors at will. The production may be entitled to some more notice as being one of

the very few cases of artificial hybridization in this country, your own strawberry, so very strangely overlooked (?) by the Editor of the *Horticulturist*, (Vol. IV, p. 500,) being one of the earliest, while its success is surely quite encouraging.

Somerville, October 25, 1850.

We are highly pleased to give so full an account of the production of Mr. Pope's Hybrid Corn. By his invitation we visited his garden in Somerville last August, and we were surprised at the growth of the stalks, and the forwardness of the ears. We had supposed, from its parentage, and from the immense size of the ears, that it would be too late for general cultivation. An inspection of it at once convinced us we were in error. Notwithstanding the season has been more than usually cold and backward, his situation a bleak one, and the planting late, nearly all the ears have arrived at their full growth and maturity, though many of them contain eighteen and twenty rows each.

It is gratifying to find such an evidence of interest in the improvement of our culinary vegetables as that of the production of this new variety of Sweet corn affords; but it shows how much may be achieved by perseverance and attention. Few persons would have supposed it worth while to spend time to try to acclimatize the Southern corn, and fewer would have conceived the idea, by cross breeding, of making it an edible vegetable—that is, in its unripe state. Yet we see what good results have been obtained, simply by a little forethought, combined with a knowledge of the great effects of hybridization.

Mr. Pope thinks strangely that the Editor of the *Horticulturist* should overlook our Seedling strawberry, when he states that "he does not know of a single fruit that has been originated directly by cross impregnation in the United States, saving Dr. Brincklé's raspberries and strawberries." There is nothing strange in this: on the contrary it would have been strange to have seen him show sufficient candor to give any credit where it belongs.

We are glad to state that Mr. Pope is raising a quantity

of his Old Colony Sweet Corn, so that it may soon get introduced into our gardens, and find a place upon our tables.—ED.

ART. II. *How to grow good Asparagus.* By DR. LINDLEY.
From the Gardeners' Chronicle.

IN these days, when quacks endeavor to cram their nostrums down simple people's throats, and persuade John Bull that their conundrums are the only things under heaven by which a gardener may hope to prosper, there is some danger that the real principles of horticulture may be lost sight of, and that the simple rules of science and good sense may be abandoned, for a foolish belief in the potency of tiles, and pipes, and pots, and pans, and other trumpery. It is therefore time to declare that good gardening wants no such aids; that the simplest means are those which, in skilful hands, lead to the best results, and that he is the best gardener who produces the greatest profit at the smallest cost.

When the great engineer, with some tackle and a few score laborers, lifted the vast tube of the Menai bridge, he did no more perhaps than a Pharaoh could have accomplished by the united force of 10,000 slaves. But in the one case we had science, skill, and economy; in the other, brute force and barbarian profusion. Will any one venture to place the despot on a level with the philosopher? In like manner when a gardener with a clear head, skill, and a glazed box, produces crops that are at the least equal to those obtained in costly hothouses with all the appliances of wealth and material, we must take care not to elevate the owner of the latter, even though he wear a smart coat, and clean linen, to a level with the former, ragged and poor as his apparel may be, and seldom as his wages go to the payment of a washer-woman. The first is the great gardener; the other is infinitely his inferior *as such*, even though he should have a handle to his name.

If any one wishes to apply these observations he will do

well to read "Cuthill's Practical Instructions,"* for then he will find what simple means are needed to bring about the most perfect results in the branch of gardening to which they refer. We are too little in the habit of meeting with gardening advice to which no exception can be fairly taken, either theoretically or practically, not to draw attention particularly to this little book, in which the reader will find the results of a good cultivator's experience told without humbug and coxcombry. The author is a market-gardener; he gets his living out of a small piece of ground at Camberwell; his interest impels him in every way to observe the utmost possible economy consistent with profit; he therefore eschews all fiddle-faddle schemes for dandifying a kitchen garden; and he tells his readers honestly and fully what he does and how he does it. The goodness of his advice concerning the Potato is attested by the fact that he is not among the serious sufferers by disease.

As it is probable that no crop is worse grown or worse managed as a whole, than Asparagus, we shall select some of Mr. Cuthill's remarks upon that root, in illustration of the foregoing observations. The following is his description of the London market garden method:—"The present plan of making Asparagus beds round London, consists in putting on *an immense quantity of manure*, and trenching the ground three or four feet deep, mixing the manure as the work proceeds. In March the ground is measured out after the following manner; suppose that a fence runs south and north, or otherwise, three feet is allowed between it and the first row; a drill is drawn about two inches deep, the seed sown thinly, say six inches or a foot apart, that gives choice of drawing out the weakest, in order that the permanent crop may stand one foot apart. The next row is sown eighteen

* "Practical Instructions for the Cultivation of the Potato," containing a Competition Essay for the prize of 1000 francs offered by the Belgian Government. Also instructions on the management of Asparagus, Seakale, Rhubarb, Vegetable Marrow, Scarlet Runner, Strawberry, Melon, Cucumber; the Tomato, or Love-apple; Chicory and Lamb Lettuce as salads; the *Lisianthus Russellianus*; the tree *Mignonette*. The destruction of woodlice and green-fly; and peat charcoal as a manure. By James Cuthill, Horticulturist, Camberwell.

inches from the one just mentioned ; then, for the alley and two sides of the bed, five feet are allowed ; then another row of seeds, and so on, that gives two rows to each bed. The first year Onions are generally sown all over the ground ; the second year, Lettuce, or any dwarf-growing vegetable that will not choke the Asparagus, and so on ; until the third year, when the beds are formed out, and a few inches of mould dug out of the alley, and put on the crowns ; but only a few of the finest heads are cut this year. Autumn arrives, and when the haulm is cut, the whole of the ground is forked over, and planted with cabbage, coleworts, or winter greens ; then in spring the beds are largely supplied with mould out of the alleys, covering the crowns from eight to ten inches deep. The finishing of the cutting must be left to the grower. A fair crop of heads must be left after four or five weeks' cutting, in order, in some measure, to strengthen the young buds for the next year's crop, and to restore to the roots what has been taken from them in the shape of a crop ; *but not one head must be allowed to grow until you leave off cutting entirely* at the end of the fourth year. (?) When the haulm gets ripe, it is all cut down, and the mould thrown into the alleys, and there enriched, and the whole of the beds and alleys are planted again with cauliflowers, &c."

By this method the ground is economised with much skill, no doubt, and never allowed to be at rest ; but the practice is in this defective, that the beds are dry when they should be moist, and that the Asparagus has to force its way upwards through a solid mass of resisting matter, which hardens the shoots by the resistance it offers to their progress, and renders them tasteless, by depriving them of light, except at the tip, which the Londoner nibbles with so much satisfaction. Mr. Cuthill's plan is this :

"I propose that each row be planted three feet distant from the other, and that each plant stand one foot apart in the row. This will give ample room for cleaning the crop, and for drawing up earth over the crowns, *so as to form a ridge three or four inches deep*, to be lowered again for the purpose of enriching the soil in the autumn and winter. By this

method I consider that *Asparagus* might be cut *at least ten days earlier than it is* by the plan now practised, of burying the roots deep in a bed of earth, where sun and air cannot act upon them; and, as for flavor, it has long been proved that, although gentlemen's gardeners do not grow *Asparagus* so large as the market gardener, of the two, it is by far the *finest in flavor with at least three times more eatable matter* in each head, though only two-thirds the length. I have had *Asparagus* sent to me from Brussels, all blanched together, a beautiful creamy white, but, when cooked, I could not discover the taste of *Asparagus* in it. It was watery and insipid, as highly blanched *Asparagus* must always be, having only the watery flavor of the roots. I have proved this years ago, by keeping it in frames shut up, and the glass covered over with mats to exclude light." "As soon as the dead haulm is cut down in autumn, I give the beds a good rich dressing of rich manure for the winter, salting them in spring, and covering the manure with mould, to prevent evaporation. The rain carries down the strength of the winter covering to the roots; and, when spring arrives, it might be raked off into the alleys, leaving only mould enough on the beds to protect the roots from the summer sun. We have then *Asparagus*, green, and eatable almost to the very root."

In the preceding quotations the italics are our own. It will probably be urged that this advice is nothing new. We believe that to be so. But what the reader of gardening works wants is not novelty, but instructions as to how he is to find his way through the farrago of interested and disinterested recommendations by which he is surrounded. It is of no consequence to nine men in ten how many ways there may be of doing a thing; what they want to know is the best way; or, if there is some difference of opinion as to that, which way is certainly an excellent one. How seldom they are told this by persons they can trust, their own experience will show them. It is as a most useful help, as far as it goes, to those who most require help, that we have given this prominent place to a notice of "Cuthill's Practical Instructions."

It is unnecessary for us to comment upon this article, so far as regards the growth of asparagus, according to the plan of Mr. Cuthill. We are as firm a disbeliever in "*quacks*," or in "gardening nostrums," and "all fiddle-faddle schemes," for arriving at perfection in horticulture, as Dr. Lindley. We have so expressed ourselves, and shall take another opportunity to review at length the whole subject. John Bull is not the only person who is bored with "conundrums," which are thought by the perpetrators of them to be the only things by which a gardener may prosper. Brother Jonathan is even more to be pitied than John Bull, for John has an abundance of real knowledge, even among the "farrago of interested and disinterested recommendations by which he is surrounded." But with Jonathan to be set on the wrong track before he knows the right, will only make him ten thousand times worse off than Johnny.

Dr. Lindley himself is not without his crotchets: witness his advocacy of Polmaise heating, even after it was abandoned by nearly every one of its early advocates. Witness also the peculiarly scientific character of his earlier works on scientific Botany, almost unreadable to any but the professed Botanist, whose descriptions of plants were as far from popular as they could well be. Yet now we see him advocating reform in nomenclature, with a desire to do away, as far as possible, with all superfluous technical language.

Upon the subject of horticultural quackery we think he is about correct. Occupying the situation he does under the Horticultural Society, and as editor of the *Chronicle*, he has so many opportunities to see through the shallowness of garden pretenders, whose whole knowledge is derived from superficial reading, that he could not omit a fitting opportunity to give utterance to his views.—ED.]

ART. III. *Descriptions and Engravings of Select Varieties of Cherries.* By the EDITOR.

WE continue our descriptions and engravings of cherries, and are glad to have the opportunity of describing three varieties, as yet but little known, but which are very desirable sorts, more particularly the New Black Bigarreau.

10. NEW LARGE BLACK BIGARREAU.

The New Large Black Bigarreau (*fig. 36*) is the name under which one of the finest varieties of cherries in cultivation has been known for nine or ten years in the vicinity of Boston. The first specimens of fruit were exhibited before the Massachusetts Horticultural Society, in 1841, by Mr. George Walsh, of Charlestown, and were awarded the first premium. These were noticed by us, at that time, (Vol. VII, p. 316,) and also subsequently, (Vol. VIII, p. 251,) when we supposed it would prove to be the Black Bigarreau of Savoy. Having had the latter sort in bearing the past season, we have ascertained that they are very distinct cherries; and we now embrace an early opportunity to give a description of a variety so truly valuable, and as yet so very little known.

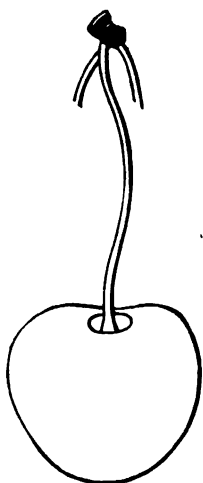


Fig. 36. New Large Black Bigarreau.

The original tree of the New Large Black Bigarreau was brought from the south of France, some fifteen or twenty years ago, by the father of Mr. Walsh, and first came into bearing about 1840. The specimens were so fine that he was induced to exhibit them. They attracted much attention, and were pronounced fully equal, if not superior, to the Black Tartarian, to which variety the fruit bears a strong resemblance in size, shape and color.

Subsequent trials have confirmed the good opinion at first entertained in regard to it, and Mr. Walsh has been several times awarded the first premium. It proves to be a very

handsome, upright and vigorous grower, a most abundant bearer, and every way worthy of being placed among the best cherries yet introduced.

Size, large, about one inch in diameter and one inch long : *Form*, heart-shaped, regular, broadest at the base : *Skin*, rich shining black, when fully mature : *Stem*, medium length, about one and a half inches long, moderately stout, and inserted in a rather broad open basin : *Flesh*, dark purplish red, firm but tender, rich, 'sprightly and delicious : *Stone*, rather large, nearly round. Ripe from the first to the middle of July.

11. BLACK BIGARREAU OF SAVOY.

The Black Bigarreau of Savoy, (*fig. 37.*) was introduced into American collections by the late Mr. George Brown, of Beverly. He purchased the tree from the nursery of M. M. Burdin, Magg & Co., of Milan, in whose *Catalogue* for 1840 it is enumerated under the name of "Cerise Bigarreau de Savoie, noir très gros." It is probably of Italian origin, and unknown in English collections, as we do not find the name in the last edition of the London Horticultural Society's *Catalogue* for 1842.

The tree is a remarkably vigorous and rapid grower, of erect and fine habit, with large, handsome leaves and a good bearer. The fruit has a very firm flesh, so much so that the robins rarely touch it as long as any others are to be found. It hangs well upon the tree, and is not easily injured by heavy rains. In this respect it somewhat resembles the Gridley or Apple cherry, a native variety of considerable merit.

We have stated that Mr. Walsh's New Black Bigarreau came from the south of France, and it was from the fact that Mr. Brown's tree came from Italy that we supposed they

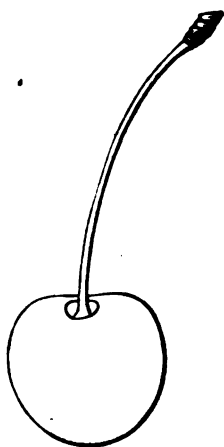


Fig. 37. Black Bigarreau of Savoy.

might prove synonymes, and hence we noticed the former under the latter name, (Vol. VIII. p. 251.)

Size, large, nearly one inch long and one inch in diameter : *Form*, oblong heart-shaped, tapering somewhat to the apex, which is small, and has a distinctly depressed point : *Skin*, dark purplish red, nearly black, of an opaque appearance : *Stem*, medium length, about one and a quarter inches long, moderately stout, and inserted in a large open cavity : *Flesh*, purplish red, slightly adhering to the stone, very firm, sweet and good : *Stone*, medium size, oval. Ripe from the first to the middle of July.

12. BELLE OF ORLEANS.

Our first knowledge of the Belle of Orleans (*fig. 38.*) was from some excellent specimens exhibited before the Massachusetts Horticultural Society last year by Col. Wilder.

The tree had been imported from France and had just begun to bear. This year it produced a better crop of much better specimens, and these proved so excellent, upon trial, that we can recommend it as a new and very fine cherry. It comes in early, soon after the May Bigarreau, and from its light yellow and somewhat transparent skin, makes a fine appearance.

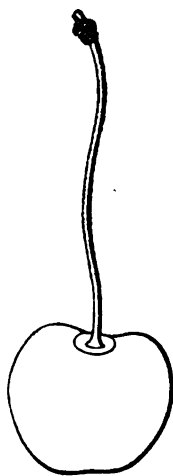


Fig. 38. Belle of Orleans.

Size, medium, about three quarters of an inch long, and the same in diameter : *Form*, roundish heart-shaped, broad at the base, and obtuse at the apex, which is slightly oblique, with an indented point ; suture distinct on one side : *Skin*, clear pale amber, shaded with light red, occasionally little mottled : *Stem*, medium length, about one and a half inches long, rather slender, and inserted in a rather large, broad and moderately deep cavity : *Flesh*, pale amber, soft, tender, sweet and pleasantly flavored : *Stone*, rather large, roundish obovate. Ripe from the middle to the end of June.

ART. IV. *Some account of two new varieties of Apples, with Engravings of the Fruit.* By the EDITOR.

THE NORTHERN SWEET.—In the January number of our present volume, (page 36,) we gave a brief notice of the Northern Sweet apple, and were only prevented from adding a full description at that time, by the loss of our specimens, which were kindly given to us by our correspondent, Mr. J. Battey, of Keeseville, N. Y., who exhibited a quantity of the fruit at the Pomological Congress last year.

Mr. Battey, in order to place it in our power to give a description of it, has sent us some excellent specimens, not quite so large as those last year, but fully up to the average size of the variety. We copy his remarks:—

The Northern Sweet apples are rather poor specimens, and I would not send them did I not feel a kind of necessity from the circumstances of last year. I have but three trees in bearing of this variety. Two of them are near a public road, and to save a tithe of the fruit I had to pick them while yet green. The other tree is an old one, in a very bad situation, the fruit from which (it bears three other sorts) is of only moderate size.

I have had occasion to exhibit specimens of this variety at five or six fairs and conventions this fall, and, in all cases, have been pretty hardly drawn upon by my pomological friends for "specimens to take home." Under all these circumstances, thee will readily perceive that I could not do justice by the variety in sending this lot of specimens.

I have been at some pains, by a careful examination of large numbers of specimens when gathering them, to select a fair average fruit, both in respect to size and shape, for the purpose of getting a true average outline of the variety, a copy of which is herewith sent. This fine variety is all which it has been represented; there is certainly no other sweet apple of *its season*, which approaches it in value, and it cannot be beat by any sweet apple of any season.—*Yours,* J. BATTEY, Keeseville, N. Y., October 23, 1850.

Our description of the Northern Sweet, (*fig. 39,*) is as follows :—

Size, large, about three inches broad, and two and a half

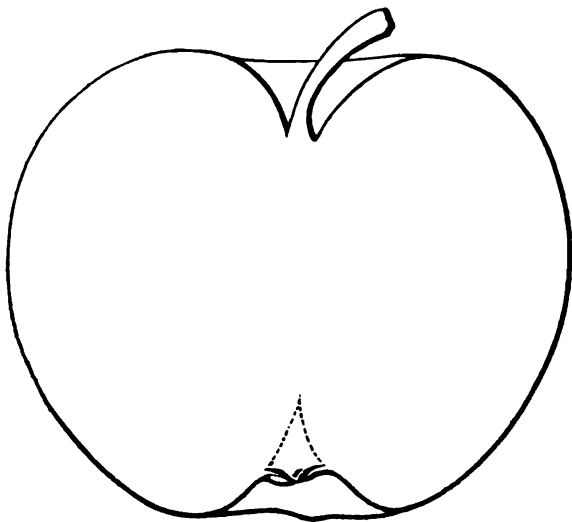


Fig. 39. The Northern Sweet.

deep: *Form*, roundish, largest in the middle, narrowing most towards the crown: *Skin*, fair, smooth, bright golden yellow, broadly suffused with clear brilliant red on the sunny side, and dotted with a few russet specks: *Stem*, medium length, about three quarters of an inch long, rather slender, curved, and deeply inserted in a regular cavity: *Eye*, medium size, partially closed, and rather deeply sunk in a broad, open, and somewhat furrowed basin; segments of the calyx broad, woolly: *Flesh*, white, fine, crisp and very tender: *Juice*, abundant, sweet, rich and well flavored: *Core*, small: *Seeds*, medium size. Ripe in October and November.

BAILEY SPICE.—This is the name of a new variety, or rather one recently introduced to notice, of which a description and outline (*fig. 40,*) have been sent us by Mr. J. W. Bailey, of Plattsburg, N. Y., whose communication we annex :—

Herewith attached is an outline and description of the Bailey Spice apple, which I consider a dessert fruit of great value. I refer you to the journal of the New York State

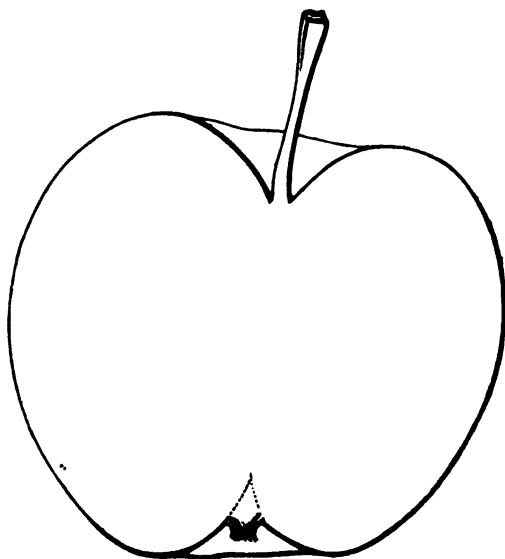


Fig. 40. Bailey Spice.

Agricultural Society of the present month, and the report of the Fruit Congress last fall, for its merit. The original tree is growing in my orchard, and was planted over fifty years ago by my grandfather, Capt. Nathaniel Platt. It is a great bearer, and I know of no fruit so invariably fair and perfect. *I am, sir, very respectfully yours, JOHN W. BAILEY, October 26, 1850.*

Size, medium, being usually two and five eighths inches broad by two and one quarter inches depth: *Form*, round, oval, tapering a little toward the eye: *Exterior color*, light yellow, sometimes with a faint blush, *always fair*: *Texture*, fine grained, tender as well as firm, juicy: *Color of flesh*, yellowish, with a slight greenish tint: *Flavor*, subacid, sprightly and spicy: *Core*, large and open: *Seeds*, plump and light brown: *Stem*, one and a quarter inches long, slen-

der, set in rather a deep cavity : *Eye*, closed, set in a narrow cavity of medium depth : *Season*, from 20th September to 20th October : *Growth*, moderately vigorous, the wood smooth, young shoots reddish brown, downy, foliage light.

ART. V. *Pomological Gossip.*

THE WALLWORTH APPLE. This is the name given to a variety forwarded to us by Mr. J. Battey, of Keeseville, with an outline of the fruit, and some account of its history. Mr. Battey says that "it is a variety which has recently come to notice here, and which I propose to call the Wallworth ; the specimen sent is under size, and quite over ripe, and I do not send it as a sample of the fruit, but to draw attention to it, preparatory to a better acquaintance with it another season, when I will send you good specimens, if procurable. I consider it fully entitled to a place in a very select list. Enclosed are two outlines, accurately taken from specimens furnished me by Mr. Wallworth, of Plattsburg, in whose garden stands the only tree of this variety I know of. It is not a seedling here, but was introduced from Rensselaer County, N. Y., where it was called the Large Golden Pippin. It is reported to have been introduced from New Jersey."

We do not append the figure, as, from the uncertainty of its origin, it may prove to be some already described kind. Subsequently to receiving the above notice, with a single specimen of the apple, which Mr. Battey alludes to, we received the full description of the Bailey Spice ; and, on comparing our outline, as well as our description, with his, we found them to agree so clearly *in all respects*, that we came to the conclusion they must be one and the same fruit. Both came from the same town, and both have been growing there some time—the Bailey Spice more than fifty years.

We annex our description in the same form as Mr. Bailey's, for comparison :—

Size, medium, about two and three-quarters inches broad, and two and a half deep: *Form*, roundish conical, narrowing to the crown, which is small: *External color*, light yellow, shaded with blush on the sunny side, very smooth and fair: *Texture*, fine grained, crisp, and tender: *Color of flesh*, white: *Flavor*, subacid, sprightly, and rich: *Core*, medium size, rather open: *Seeds*, medium size: *Stem*, long, about one inch, slender, and moderately inserted in a small, contracted cavity: *Eye*, small, closed, and moderately depressed in a small, regularly furrowed basin. Ripe in September and October.

The Wallworth we consider a fine apple, and it is unlike any variety we are acquainted with. If, another year, when we can have specimens of the Bailey Spice and the Wallworth to compare, the latter should prove distinct, we shall give our outline of the fruit.

PLATT'S SEEDLING PEAR. We are indebted to Mr. Battey for specimens of a new pear, which is called the Platt's Seedling. The pears grew upon a tree (which is a sucker from the original) in the orchard of Mr. Platt, of Plattsburgh. The parent tree is still standing in Beekmantown, where it originated, on the farm of one of the early settlers, who raised it from seed brought from Long Island. The fruit is of large size, yellow when ripe, always fair, and never rots at the core; the tree is a vigorous grower, and an abundant bearer. Mr. Battey remarks "that if it only was a little higher flavored, it might rank nearly first-rate." The specimens, when we received them, were a little over ripe, and were allowed to hang too long upon the tree before being gathered; but we thought it a very good pear, and worthy of cultivation. Its season of maturity is October and November.

NOUVEAU PORTEAU PEAR. This new variety has fruited this year in two or three collections around Boston, and specimens were exhibited at the Annual Exhibition of the Massachusetts Horticultural Society, in September. Our correspondent, the Hon. Mr. Cabot, of Salem, has since then exhibited some ripe specimens, which were tried by the fruit committee, who report that it proves to be a very fine pear.

Mr. Cabot also favored us with a handsome fruit, of which we shall give an outline and a descriptive account in our next volume.

THE DIANA GRAPE. Mr. Longworth, of Cincinnati, is so fearful somebody will pay *fifteen dollars* for a vine of the Diana, that he deems it important that its quality "should be made known as speedily as possible, to save our fruit growers time and expense." Has our old friend forgotten how the Boston pomologists were humbugged by the celebrated "Longworth's Ohio, or Cigar Box Grape"? for which they paid five dollars apiece for vines sent by Mr. Longworth, and which proved to be more worthless than the fox grape of our woods; so worthless, indeed, that we do not believe, out of two hundred vines sent east (\$1000 worth) there is one now left. Mr. Longworth says that "none of our fine native grapes will succeed in New England." This is true to a certain extent, though the Isabella does well in four seasons out of five. But Mr. Longworth knows nothing about the Diana. It is for the very reason that it *will succeed* in New England, that it is prized so high. It not only is so early as to be certain to ripen its crop here, in all seasons, early or late, but it surpasses the Catawba, or any other American grape, in flavor. We first described it in our Magazine, and have been acquainted with the variety for eight years; and we hesitate not to pronounce it preferable to the Red Chasselas, the Espereione, Miller's Burgundy, and several of the French grapes. And so far as its value not being worth fifteen dollars—why, rather than not have it in a collection, we would give double that. But it is not in this view, we presume, that the gentleman thought of paying that sum, but probably for commercial purposes; and every cultivator knows that, though a single plant or fruit of any kind may not be intrinsically worth fifteen dollars, yet for the purposes of propagation it may be worth five hundred dollars. Twenty-four plants of the Stanwick Nectarine brought at auction, in London, one hundred and sixty-four pounds sterling—about eight hundred dollars. Now, if the Stanwick nectarine is worth, for general purposes of cultivation, eight hundred dollars, we venture

to assert that the same number of plants of the Diana grape is worth double that sum ; because but few persons can succeed with the nectarine, while every individual who possesses a rod of ground can grow this grape in perfection. The Diana is too well known, already, to require any further praise from us. We only make these remarks to correct such an egregious error in regard to the commercial value of any new or rare plant or fruit, as that made by Mr. Longworth.

A notice of several varieties of grapes, sent by Mr. Longworth to the Massachusetts Horticultural Society, will be found in our report of the meetings.

PURPLE FONTAINBLEAU GRAPE. We find the following account of this grape in the *Gardener's Chronicle*, in a notice of Mr. Rivers' Nursery, Sawbridgeworth. Mr. Rivers was trying it as a pillar grape. It grows freely in the open air, and bears abundantly ; the specimen in question had about fifty large bunches on it, which no doubt would have ripened, had they had the assistance of a wall. Its fruit is said to ripen before that of the Burgundy. A few examples of this grape have been sold as the Muscat of Fontainebleau.

THE STANWICK NECTARINE. It may be a fact worthy of note to our nurserymen who may purchase the Stanwick Nectarine, that it is somewhat fastidious as regards the kind of stock suited to its growth. Mr. Rivers, who has had charge of the sole stock for sale, states that it will not grow on the Muscle—the kind usually made use of for nectarines. It will grow on the Damas Noir. It may be well to bud it at first upon the peach, until that kind of plum stock is found upon which it will take freely. By adopting this plan, there will be no danger of losing the first buds, which will be more valuable than when the variety becomes common.

NEW SEEDLING PEAR. Mr. Dana, of Roxbury, recently exhibited another of his seedling pears, which he has named Martha Ann. In appearance it is like the Dix, and promises to be a fine variety. Another year's trial will enable us to judge better of its merits.

ART. VI. *How to Raise Isabella Grapes.* From the Maine Farmer.

A MORE plain, practical and common sense article than the following, we do not often meet with. Under the initials of A. J., Jr., we recognize an old correspondent of our pages, and we hope we give no offence to the author, whose modesty will not allow him to write out his name in full, in telling our readers they are indebted to Mr. A. Johnson, Jr., of Wiscasset, Me., for this excellent paper. A notice of this same Isabella vine will be found in our present volume, (p. 81,) by Mr. Johnson, where he stated the immense quantity of fruit he gathered from it last year. And we are now glad to give the method by which he was enabled to reap such a rich harvest.

Mr. Johnson's practice is another evidence of the value of *high feed*, by which we are to understand, plenty of manure, or its equivalent,—not merely sulphur, ashes and lime,—as has been strongly recommended, because sulphur has been found in the wood and pulp,—but well decomposed manure, and an abundance of soap suds,—the latter a valuable commodity in the culture of the grape, and always within the means of every housekeeper. These, added to a deeply trenched and prepared soil, have accomplished the great result which Mr. Johnson now chronicles for the aid of those who don't know how to have an abundance of ripe grapes.—*Ed.*

Dear Sir,—I had neither the vanity or courage to offer my grapes and pears for exhibition to the Pomological Society, or to invite their criticism upon my horticultural pastime,—for pastime it has surely been to me, and nothing else, the past season,—to watch the growth of my bantlings along, and to entertain my friends and visitors with short conversational dissertations upon horticultural science, *as I understand it*. My friends listen with wonderful patience. My breath, without the example, might be thrown away, and

probably would be ; yet, both combined, through a *very little leaven*, the whole lump will be leavened. The many strange faces I have seen, rambling about my very limited premises, assure me that the public are not unmindful of my doings ; and the evident interest in my success, exhibited by all, has sufficiently repaid me all the expense, as well as afforded me real and continual gratification during the whole season. Nevertheless, I am not yet ready to enter the lists of generous rivalry with my Kennebec friends, in the raising of fruit. Many of them possess wealth, and all of them *soil*, which I do not ; but energy and ingenuity have accomplished much in this world ; I do "never despair." In 1852, if my usual robust health continues, I will *appear* to the Society, with my samples of what can be done in this State in the way of fruit raising. In the mean time I will jog on at my usual pace, a *brisk trot*, and see if anything can be grown another year, worthy of sending to my yet unseen friend, the editor of the "Farmer." But, lest too much might be anticipated, I will merely say here, that the whole extent of my *farm* will not exceed a third of an acre. This is small ; but *it is fed*, you may depend. At another time I will say something about the soil and the rich profusion of its products.

My object, at present, is to say something about grapes, and more particularly I design to speak of the *Isabella* grape ; the soil it likes the best ; the aspect ; the pruning of the vine ; the thinning of the fruit ; and the *very great degree of cold* the grapes will bear in autumn, without the slightest injury. I shall only speak of what I *do know*, and let theory alone. As my large vine illustrates fully all I have to say about it, I will describe that, premising, only, that they can be grown in any other shape, though this is considered the best.

In the autumn of 1845, I bought a variety of vines and shrubs of Messrs. Hovey & Co., of Boston, and among others, this "*Isabella*" vine. I paid one dollar for the vine. It had three arms or branches starting from the very root, about as large as one's little finger ; the diameter of

the root was three fourths of an inch. It was every way a thrifty, hearty, well-rooted vine, and worth the dollar.

After looking about sometime for a suitable place to set it, I concluded to plant it against the south end of my house and train it upright. The house is 38 by 20 feet and fronts the east. The L joins the west side of the main house at the westerly corner, jutting out southerly by the main building about six feet. The kitchen and wood-house juts out southerly by this L in the same way, thus forming in the space of sixty feet, two right angles or L's. My vines are planted along on this southerly side of the buildings, the great vine being against the centre of the end of the main house, and one foot distant therefrom. The border made for this vine is fifteen feet long by three feet wide and three feet deep. All the old soil (heavy clay) was taken out, and the trench filled with three cart-loads of pasture loam and turf, one load of old cow manure, three barrels of unleached ashes, one barrel of bones, broken up, and one load of *very old spent tan*, which was spread over the top of all, after they were well mingled together. In the bottom of the trench was placed a layer of broken brick and small stones, eight inches thick. The top of the border is about six inches above the level of the adjacent ground. The vine was carefully set out on the 10th of November, every fibre properly extended; the root was well covered with coarse litter, and the three arms tied together with woolen list, and sheathed lightly with long straw, and then bound firmly to a strong stake.

The vine got through the winter well. It was uncovered about the tenth of April, and the arms, which were three feet each in length, were tied to separate stakes. The left hand arm started well with two strong shoots from the top end; the middle arm the same, while the remaining arm started rather feebly, with but one shoot. All these five shoots grew until September, when they were all stopped by pinching off the ends about six feet from the ground. In November, (say the 10th,) the shoots were pruned of tendrils and laterals, leaving nothing but the bare canes; these were soon tied together as before, laid horizontally about a foot

above the ground, and sheathed with a covering of long straw, bound with list as before. A few green boughs were thrown over them. In the spring, (of 1847,) they were unbound as before, and tied up to long stakes. The middle shoots started very vigorous. I allowed each one to "fork" again, thus getting four strong canes from the one middle shoot below. The left arm grew off as before with two shoots only, and the right arm kept on with a single shoot above. Thus I got seven upright canes, and the vine *properly balanced*; and it remains in this form now. Some fruit appeared, which was promptly pinched off, and the vine reached the height of ten feet,—all of good, strong wood. All the laterals and tendrils were again pinched off in November, the canes gathered together, sheathed with straw and laid down as before. In April following, the covering was removed. In May, (about the 10th,) the canes were fastened to an upright trellis, and the buds pushed finely. June 1st, about one hundred bunches of grapes appeared. All were removed but twenty-five; these grew finely as well as the vine. In September, say about the 20th, the canes were stopped about fifteen feet from the ground. The fruit was prematurely gathered, September 25th, and although fine to appearance, it proved quite acid and "foxy." I regretted very much my unseemly haste. I found out, when too late, that not even a leaf of the vine was nipped by the frost until October 20th. The canes were pruned smooth, as before, sheathed and laid down, November 20th. In the spring of 1849, (last year,) the straw was taken off, April 10th. The vine was not put up on the trellis until May 25th. I found the longer I could keep it down, the better the eyes or buds would push on the *lower half* of the vine. Two hundred bunches of fruit appeared in June. Twenty-five, only, were allowed to grow. These ripened finely and were gathered October 15th. The vine was not suffered to grow in height, as I designed to "spur prune" the canes in the fall. This I did, (in November as usual,) cutting every lateral away, and every little branch that had borne fruit was cut in the mid-

dle of the third joint, thus leaving two good eyes, and a third at the base, (of this little branch,) from which to rear another bearing branch another year. Then the canes were *carefully* gathered together and tied; the whole was bent round like a large wheel, and done up in straw as usual; a mat thrown over it, (to keep off the sun, not the cold,) and the whole rested against the house through the winter. Last spring, (1850,) I unbound the straw and loosened the canes in April, and put up the vine on the trellis, May 25th. All the buds broke finely all the way to the ground. They looked very fine.

A great abundance of fruit appeared in June, more than four hundred bunches. The poorest, and those on the back side of the vine, were taken off; only two hundred and twenty-five bunches remained to grow by the 10th of July. To please some of my neighbors who seemed *proud* of my vine, I spliced my trellis and pushed it up nine feet further this year,—each cane having grown that much, to the very top of the added trellis. Notwithstanding this great growth, (63 feet,) the fruit ripened very well, and was gathered, October 8th, in fine condition, though not quite so large as it was the last year.

This vine, with its splendid array of fruit, and its fine, portly dimensions, has arrested the attention of every passer by, the whole season. It covers a trellis eight feet wide by twenty-four feet high, which stands eighteen inches from the house, and is secured to the same with stout wire hooks and stays. The blinds open freely behind this trellis, the fruit appearing at the parlor windows in October, of rich purple hue and in great profusion. I have enjoyed many a taste of the grapes this fall as I rise in the morning, from the chamber windows, which is certainly an unusual thing for a "Down-Easter" to be doing.

I wished to ascertain to a certainty what amount of frost this grape would bear without injury, and so I left about a dozen bunches on the vine. October 28th, I took off six or eight, and found them delicious, of excellent flavor, and far superior to anything I ever saw in Boston market, for grapes

raised in the open air. There are still some branches hanging there uninjured, although every leaf has fallen, and water in a barrel has frozen four tenths of an inch thick. My thermometer has, several times, stood at 22° this season at sunrise, (or rather the mercury in it,) showing that a degree of cold which will freeze the ground and common vegetables, leaves the grape harmless. I never shall fear again the frost, until every dahlia is gone, and the very leaves of the vine which bears the grapes are nipped and killed. October 20th is plenty soon enough to talk about gathering grapes.

I shall prune this vine the middle of this week, 22d inst., "spurring" it *in my fashion*, and leaving this year's growth of cane smooth, as before. I had nearly forgotten to name that every gill of *soap suds* made "washing day," goes to the roots of my vines, "express." They are bountifully supplied with water during the season. The well is close by, and I own a syringe and small copper force pump, and I don't forget to use them freely everywhere, on my premises. The foliage and fruit are kept in much fairer condition by frequent showering with a syringe; besides, the moths and insects are routed; they cannot stay where, once a week, they are subject to a general deluge.

I have a variety of vines, of which I shall speak by and by. In the mean time I will say, that every one in the State can raise this fine fruit, if they can completely shelter their vines from the northeast, north and northwest winds. *Begin* right, and there is no "witch-work" about it. More anon.

A. J., JR.

Wiscasset, November 18, 1850.

MISCELLANEOUS INTELLIGENCE.

ART. I. General Notices.

PLUMS.—I have long been a cultivator of fruits, and have seen them in many sites and soils, in every part of England, and in many on the continent, and I now feel more than ever the extreme caution required in pub-

lishing an opinion of the merits or demerits of any particular variety. Such were my reflections on reading the article at p. 678, headed "Select Plums." Your correspondent, "J. B. W.," received fruit of the Reine Claude de Bavay on the 10th inst., after a journey from France, and proceeds to give his opinion of it. Now this is at least more than a fortnight after its perfect maturity here; for in England, south of Trent, it ripens as nearly as possible, allowing for the variation of our seasons, from the middle to the end of September; and, when fully ripe and slightly shrivelled at the stalk, it is brimfull of a rich, sugary, refreshing juice. In my opinion it is more grateful to the palate than the Green Gage, which, when fully ripe, fatigues the taste with its lusciousness. I ate some fruit of the Reine Claude de Bavay from my tree, I think about the 15th inst.; they had lost their juice and were not good. The Queen Mother plum, as you well know, is a small plum, good enough, but not worthy of much notice. Kirk's plum is really good. The Precoce de Tours, one of our least hardy plums, I have some pleasant recollections of; three very large standard trees, planted by my great grandfather, used in my boyhood to bear once in four or five years a tolerably good crop, worth gathering to send to market; in other seasons only a very thin sprinkling. In these seasons of scarcity we, the boys, had the privilege of shaking the trees and appropriating the plums to ourselves. What "jolly" seasons they were, and how often they came? This plum is indeed only fit for a wall. The Early Prolific, mentioned at p. 663, is a seedling raised from it with smooth instead of downy shoots as that has, and with blossoms so hardy as to withstand nine degrees of frost on the 3d of last May, which killed everything besides, among fruit. The trees are standards. Its fruit is perhaps a little longer than those of its parent; it is more juicy and brisk in flavor; in shape and appearance much like it. It is indeed a Precoce de Tours *hardened*. Why should not we gardeners make a word? There is another seedling from the same parentage like the above, now common in the nurseries; for both have been in being nearly 20 years, called the Early Favorite. This has downy shoots, is a trifle earlier, of higher flavor, but not so hardy. "J. B. W." should tell us where he lives, and whether he cultivates the plums he mentions as standards, or against walls, as such information satisfies readers and prevents many inquiries. Your correspondent has omitted to mention two very valuable and very hardy late plums, Coe's Late Red, and St. Martin's Quetsche, a yellow plum of excellent quality and most profuse bearer, as a standard or pyramid.—(*Gard. Chron.*, 1850, p. 693.)

PEACH STOCKS.—About ten years ago I planted, by way of experiment, a Grosse Mignonne peach in the middle of a small pit, and trained it right and left to a trellis a foot from the glass. As it increased in growth I kept giving it more room, and it progressed tolerably well, but I never felt satisfied with it. In one year, however, (1847,) I gathered eight dozen of fine fruit from it, in July and August; but, with that exception, it never produced more than a few dozen, until this year, when I had ten dozen well set and stoned on it. In July, however, when the swelling process was going on, it died just before the crop was ripe. The cause of death was

the stock being one mass of gum and canker. I never perceived the stock to be affected before this season. It was either a peach or nectarine stock, as I ascertained by a sucker which sprang up from a surface root. Gardeners should beware of the kind of "stocks" such trees are "worked" on. Why not bud them on the old Mussel plum, as formerly, which is clear and bright as glass. In the "Theory of Horticulture," p. 239, you say, concerning stocks, "It is sometimes desirable to increase the hardiness of a variety, and grafting or budding appears to produce this effect to a certain extent; not, indeed, by the stock communicating to the scion any of its own power of resisting cold, but by the stock being better suited to the soil of latitudes colder than that from which the scion comes, and consequently requiring a lower bottom-heat to arouse its excitability." Mr. Knight, indeed, denies this fact, because "the root which nature gives to each seedling plant must be well, if not best, calculated to support it;" and it is so under the circumstances in which the species was first created, but without this addition. The paragraph in inverted commas is specious only, not just. Probably in Persia, the native country of the peach, that species, or its wild type the almond, is the best stock for the former fruit, because the temperature of the earth is that in which it was created to grow; but in a climate like that of England, the temperature of whose soil is much lower than that of Persia, the plum on which the peach takes freely, is a "hardy native, and suited to such soil, and its roots are aroused from their winter sleep by an amount of warmth unsuited to the peach. And experience in this case completely confirms what theory teaches; for, although there may be a few healthy trees in this country growing upon almond stocks, it is perfectly certain that the greater part of those which have been planted have failed, while in the warm soil of France and Italy, it is the stock on which most of all the old trees have been budded." The above quotation is sufficient to show what stock a gardener should prefer, and what a nurseryman should reject.—(*Gard. Chron.*, 1850, p. 693.)

THE PLUM AS A PYRAMIDAL TREE.—For some few years I have amused myself by forming my plums trees into pyramids, feeling convinced that no other mode of cultivating our hardy fruits is so eligible for small gardens. I was induced to take extra pains, on account of observing that our neighbors the French, so famous in their cultivation of pyramids, failed to a certain extent with the plum; as their trees, I observed, on being pruned to that shape, made too vigorous shoots, and were inclined to gum. They do not know the value of root-pruning and will not listen to it; I do, and therefore felt some hope of success. At first I commenced to root-prune once in two or three years, but I soon found that was not enough, for the plum makes roots so rapidly that it is difficult to check it; I have now, therefore, for the last three years root-pruned annually early in autumn. My success is perfect; this I have generally done in September soon after gathering the fruit, but this year not having any fruit, and awakened by your article on "Summer Root-Pruning," given in *Gardeners' Chronicle* in July, I operated on them in August; the trees almost immediately went to rest, and are now pictures of forthcoming fruitfulness. The operation is so sim-

ple, that any one may exercise it without any fear of failure. Let me attempt to describe it; and yet how irksome it is to have to employ so many words about what one can tell and do in a few minutes. Open a circular trench, eighteen inches deep (for the plum does not root deeply) round one tree eighteen inches from its stem; for the first two or three years this distance will be enough; increase the diameter of the circle as years roll on, but very slowly, not more than from one to two inches in a year, and cut off every root and fibre with a sharp knife. This operation may be likened to the manner in which old folks talk of the way in which they used to cut the hair of poor workhouse boys, viz., place a basin on the boy's head and trim off the hair round its rim—in short, the “workhouse cut;” then when your roots are so trimmed, introduce a spade under one side of the tree and heave it over, so as not to leave a single tap root. Fill in the mould; if the weather is dry give the tree a soaking of water, and it is finished. If your soil is poor, give a top-dressing of manure, to be washed in by winter rains. The following summer pinch off the ends, in June, of any shoots that seem inclined to push more than four inches, and thin those out with the knife that are too crowded; the result will be a handsome and highly prolific pyramidal tree. Plums are not yet half appreciated; for, owing to the introduction of many new and good varieties, they are in season from July till November, for the dessert and for the kitchen.—(*Gard. Chron.*, 1850, p. 694.)

LIQUID MANURE.—The plan suggested in your leading article of condensing the good properties of liquid manure by immersing bags full of peat charcoal, would I am sure be ineffectual. Charcoal possesses two properties, the first is the power of condensing great quantities of any gas, as ammonia, which comes in contact with it—it is this which constitutes its deodorising power. Charcoal has also the property of clarifying any liquor passed through it. It readily parts with the gas it absorbs,—for instance if it contain as much ammonia as it was capable of holding, and was in that state immersed in water, the ammonia would be dissolved out. If therefore liquid manure was passed through the charcoal, the ammonia it could condense would *only* be the portion that was dissolved in the small quantity of water retained in its pores. The liquid would be to some extent deprived of its color by the removal of the coloring matter suspended, but not a fraction of the really valuable *soluble* matter would be removed. By immersing the charcoal, the only benefit would be the removal of that portion of the liquid retained in its pores; no difference would be made in what was left.—(*Gard. Chron.*, 1850, p. 699.)

WINTERING THE CARNATION.—As winter will soon approach us, perhaps the following plan of wintering the carnation may prove acceptable. My frame stands on legs, and has a false bottom, eight inches from the ground, well drilled with a one and a quarter inch auger. On this bottom I put a layer of pots herds and brick rubbish, and on these my pots (48s each, containing two plants) are placed. I then fill up to the rims with a compost of three parts cinder ashes and one part saw-dust, with a small quantity of powdered charcoal, all well mixed. In this mixture the plants may be

watered without the least fear of injury from mildew, &c., as the water passes off freely, and no damp is generated in the frame from the earth beneath. In this way I have grown carnations, &c., for a number of years, and have always had an extremely healthy stock. I have false bottoms in my frames, because I use them for other purposes, such as working dahlias and growing cucumbers in, &c.—(*Jour. of Hort.*, 1850, p. 669.)

ART. II. *Foreign Notices.*

ENGLAND.

DAHLIAS AND DAHLIA EXHIBITION OF 1850.—We give our amateur friends our annual summary of the exhibitions of the dahlia for the present year. The rage for new and fine flowers seems to be full as great as in former years. Large quantities of seedlings are annually produced, and a few choice and selected kinds, which have passed the ordeal of an exhibition before some of the prominent floricultural societies around London, are added to the list. The best guide to a selection of new sorts is to be found in a careful examination of the varieties which have been most prominent in the stands which have obtained the premiums, and those fanciers who wish to add to their stock will see below which are the best winning flowers:—

SURREY AMATEUR DAHLIA SHOW.—Best twelve blooms: Dr. Graham, Purple Standard, Richard Cobden, Mrs. C. Bacon, Crocus, Bathania, Optimus, Striped Essex Triumph, Scarlet Gem, Imbricata, Mr. Seldon and Black Prince,—to Mr. Kirkpatrick.

NORTH LONDON FLORICULTURAL SOCIETY.—Best twelve blooms: Duke of Cambridge, Richard Cobden, California, Thames Bank Hero, Duke of Wellington, Snowflake, Black Prince, Grandis, Mr. Seldon, Louis Philippe, Fearless, and Sir F. Bathurst,—to Mr. C. Turner.

ROYAL SOUTH LONDON FLORICULTURAL SOCIETY.—Best twenty-four blooms: Duke of Wellington, Purple Standard, Mr. Seldon, Queen of Lilacs, Thames Bank Hero, General Negrier, Mrs. C. Bacon, Imbricata, Lady St. Maur, Standard of Perfection, Yellow Standard, Richard Cobden, Fearless, War Eagle, Essex Triumph, Scarlet Gem, Nonpareil, Beauty Supreme, Louis Philippe, Queen of the Isles, Shylock, Duchess, Sir F. Bathurst, Oakley's Gem,—to Mr. Robinson.

ROYAL CHELSEA DAHLIA SOCIETY.—Best twenty-four blooms: Fearless, Earl of Clarendon, Sir F. Bathurst, Gem, Toison d'Or, Negro, Queen of Lilacs, Duke of Wellington, Thames Bank Hero, Mr. Seldon, Seraph, Scarlet Eclipse, Marchioness of Cornwallis, Shylock, Queen of Lilacs, Richard Cobden, Nonpareil, Mrs. Seldon, Black Prince, Duke of Cambridge, Frederick Jerome, Yellow Standard, Louis Philippe and Andromeda,—to Mr. Turner.

NOTTING HILL DAHLIA SHOW.—Best twelve blooms: Duke of Wellington, Queen of Lilacs, Emperor de Maroc, Earl of Clarendon, Fearless, Essex Triumph, Madame Gobert, Richard Cobden, Mr. Seldon, Seraph, Shylock and Scarlet Gem,—to Mr. Robinson.

HAMMERSMITH DAHLIA SHOW.—Best twelve blooms: Fearless, Richard Cobden, Seraph, Negro, Mrs. C. Bacon, Nonpareil, Mr. Seldon, Snowflake, Scarlet Gem, Standard of Perfection, Duke of Wellington and Essex Triumph,—to Mr. Cook.

SHACKLEWELL HORTICULTURAL SOCIETY.—Best twenty-four blooms: R. Cobden, Mrs. Seldon, Negro, Duke of Wellington, Andromeda, Thames Bank Hero, Magnificent, Earl of Clarendon, Nonpareil, Mr. Seldon, Black Prince, Snowflake, Princess Louise, Utilus, Miss Vyse, John Edwards, Queen of Lilacs, Shylock, Fearless, Standard of Perfection, Seraph, Duke of Cambridge, Essex Triumph and Queen of the East,—to Mr. Turner.

FANCY DAHLIAS.—The following are twenty-four of the most successful fancy varieties: Flying Dutchman, Striata perfecta, Conspicua, Comus, Jeanette, La Rosiere, Candidate, Keepsake, Miss Blackmore, Comte de Flandre, Elizabeth, Lady Grenville, Jenny Lind, Madame Wachy, Miss Compton, Highland Chief, Picotee, Rainbow, Mrs. Shaw Le Fevre, Roi de Pointelles, Master George Clayton, Miss Jane, Gasparine, Emperor of Maroc.

SEEDLINGS OF 1850.—Those which have been awarded *first class* certificates are the following:—Julien, rose color. Queen of the Fairies, (fancy,) purplish lake tipped with white. Turner's Pretty Polly, (fancy,) vermilion tipped with white. Stein's Nil Desperandum, scarlet. Sir C. Napier, scarlet, shaded with black. Hon. Mrs. Ashley, beautiful light tipped. Bragg's Admiral, brilliant lilac, (superb.) Bushell's Coquille, carmine tipped with white. Nepaulese Prince and Nepaulese Ambassador, both dark flowers. Mrs. Hansard, chrome yellow, tipped with white. Others not described, but which obtained certificates, are George Glenny, Summit of Perfection, Hon. Mrs. Herbert, Regina, Ambassador, Carmine and Queen of Beauties.

Mr. Turner, of Slough, whose excellent paper on the cultivation of the dahlia will be found in our XIIIth volume, (p. 229,) was the most successful exhibitor, and gained a great number of the first prizes at various exhibitions.

ART. III. *Exhibitions of Horticultural Societies.*

PENNSYLVANIA HORTICULTURAL SOCIETY.—This society held its twenty-second annual exhibition, on the 18th, 19th and 20th of September last, at the Masonic Hall in Philadelphia.

A large collection of plants was exhibited:—From the president, about 80 varieties, half of which were cacti. From J. Dundas, about 100 plants. From R. Buist, nearly 400 pots of plants, including 30 cacti and upwards of 50 hardy evergreens in pots. P. Mackenzie, 75 plants. J. D. Fulton, 50 plants. R. Kilvington, 50 plants, and smaller collections from other contributors, in all probably nearly or quite *one thousand plants*.

The floral designs were numerous, and, from the description, executed with great taste. The display of flowers was about the same as in former years.

The collection of fruit was large, but the number of varieties rather limited. Mrs. J. B. Smith and T. Hancock each exhibited about 70 varieties of pears, and R. Buist about 40 varieties. Messrs. Hancock, J. Perkins and G. B. Deacon, exhibited large collections of apples. Of grapes there was a large display of Isabellas, Catawbas, Elsinburgh, Powell and others; the specimens raised under glass were rather limited this year.

The premium for the best and most numerous collection of pears was awarded to Mrs. J. B. Smith, and for apples to J. Perkins. Best native grapes, (6 varieties,) to Peter Raabe. Best, (under glass,) to Mr. Johns.—(*Report.*)

CINCINNATI HORTICULTURAL SOCIETY.—The annual exhibition took place on the 2d, 3d, 4th and 5th of October last. The *Western Horticultural Review*,—a new work, which we shall hereafter notice,—contains a full report, filling upwards of 30 pages.

The premiums offered were liberal, and the competitors numerous. The fruits were the chief attraction,—especially the apples,—and they were deservedly admired for their size and appearance. Many of the Eastern pomologists said they could not recognize their old acquaintances so much increased in size by transportation into the fertile soil of the west. The pears were not numerous, with the exception of collections from the East, but a few varieties were shown, and these came mostly from the president, Mr. Ernst, T. V. Petticolas and R. Neale. The award of premiums for fruits was as follows:—

APPLES.—For the best 10 varieties, (6 of each,) to M. S. Wade, \$10. Second best, to R. Neale, \$5. For the best display of all kinds, to T. V. Petticolas, silver cup, \$20. Second best, to Jos. Orr, \$10.

PEARS.—For the best 6 varieties, (6 each,) to R. Neale, \$10. Second best, Jos. Orr, \$5. The same to A. H. Ernst, \$5. Best display of all kinds to Ellwanger & Barry, silver cup, \$20.

PEACHES.—Best fine varieties, to D. McAvoy, \$10. Handsome specimens, to L. Young, Ky., \$2.

GRAPES.—Best display in variety, to R. B. Bowler, silver cup, \$15. Best display of hardy sorts, to J. E. Mottier, \$10. Best display of Black Hamburg, to W. Resor, \$10. With several prizes for grapes.

FLOWERS.—The premium for the best display of greenhouse plants in bloom, was awarded to S. S. Jackson, \$25. Second best, to W. Heaver, \$15. Best display of the same not in bloom, to W. Resor, \$20. Second best, N. Longworth, \$10. Best 24 dahlias, J. Sayers, \$15. Second best, W. Heaver, \$10. Best display, to J. Sayers, \$15. Second best, W. Heaver, \$10. With several other prizes for dahlias and other flowers.

DESIGNS.—For the best, to R. P. Resor, \$25. Second best, Mrs. W. Heaver, \$15. Third, to Misses Orange, \$10.

Numerous other prizes were awarded, but we have no space to give them.

NEW BEDFORD HORTICULTURAL SOCIETY.—The fourth annual exhibition of this society was held at the City Hall, on Wednesday, Thursday, Friday, and Saturday, the 25th, 26th, 27th and 28th, of September last.

Our correspondent, Mr. Crapo, has furnished us with the report in detail, but we have only room for a brief notice. The Committee present their report as follows:—

The Committee, in presenting their annual report, are much gratified in being able to say, that the show of fruits on the occasion exceeded that of any former exhibition, and bore ample testimony to the favorable results which have thus far attended the labors of the Society.

The display of fruits, and more particularly of pears, was very fine, notwithstanding the present season has been an unfavorable one for the growth of most kinds of fruits, and especially when the limited means of the Society is taken into the account.

Of pears there were nearly one hundred different varieties upon the tables, embracing most of the really desirable kinds now cultivated. Many of them were truly magnificent in appearance, being very large and fair, and bore evident marks of good culture in a congenial soil. Of other fruits, the show, as formerly, was limited, very little attention having heretofore been given to their culture, although, in this respect, there was evidently an improvement upon former exhibitions. From the exhibition, as a whole, the Committee are encouraged to hope that the efforts of the Society to advance the cause of pomology by increasing a love and diffusing a taste for the culture of choice fruits, will be attended with abundant success.

The principal exhibitors were, James Arnold, who had 28 varieties of pears, 13 of grapes, and other fruits. W. T. Cook, 22 varieties of pears, &c. R. N. Swift, 29 varieties of pears, 8 of apples, &c. C. W. Morgan, 29 varieties of pears, 14 of apples, &c. H. H. Crapo, 48 varieties of pears, 8 of apples, and other fruits. W. P. Jenney, 35 varieties of pears. There were upwards of *sixty* other contributors, who sent from one to twenty varieties of different fruits each, making up a very extensive display.

The flower and vegetable departments were also well supplied with specimens. The dahlias and asters were the principal attraction in the floral way.—(*Report.*)

ANNUAL EXHIBITION OF THE GENESEE VALLEY HORTICULTURAL SOCIETY.—This exhibition was held in Corinthian Hall, on the 26th of September, in connection with the Horticultural, Dairy, and Domestic Manufacture departments of the Monroe County Agricultural Fair. The display of fruits, flowers, and vegetables, was very good—superior to any similar show we have seen in Rochester. The fruits were remarkably select, the specimens fine, and, with a few exceptions, correctly named. It is very gratifying to see so much attention given to this latter point. This is one of the results of our Society and its exhibitions. Mr. Hayward, of Brighton; Mr. Lay, of Greece; Mr. H. N. Langworthy, of Irondequoit; L. B. Langworthy, of Greece; John Donnelan, of Greece, and several others, presented beautiful collections of apples. Mr. Donnelan's, in particular, was remarkably fine. S. H. Ainsworth, of West Bloomfield, presented a large collection of apples, pears and plums. Messrs. Bissell & Hooker presented a collection of choice pears, including some rare varieties, and some four or five varieties of foreign grapes, from their vineyard. The Black Hamburgs

were especially good—bunches large, well colored and ripened. They attracted much attention. Mr. H. N. Langworthy exhibited good specimens of Seckel, Swan's Orange, and White Doyenné pears, and fine specimens of the Melon apple. Charles Powis, of Greece, presented a handsome collection of apples and pears; Ellwanger & Barry, select varieties of apples and pears. Of peaches, nothing worth naming was presented, and grapes were not as fine as usual.

In the floral department, dahlias were the most attractive articles. Of these the display was decidedly superior to any we have before seen here. It imparted whatever of brilliancy there was in the exhibition, and will no doubt be the means of drawing increased attention to this beautiful autumn flower. Messrs. C. J. Ryan & Co., of Charlotte, made an extensive and beautiful display—their varieties were good, and the specimens tastefully shown. Messrs. King & Dawe, and S. Moulson, of Rochester; Charles Powis, of Greece; and Ellwanger and Barry, contributed handsome collections. A few amateurs, young ladies in particular, made some pretty contributions in the way of dahlias and other cut flowers.

The vegetables were exceedingly fine. We noticed several fine samples of Lima beans; and table beets, onions, cauliflowers, &c., grown in perfection. Mr. Crosmen, and Mr. Kem, and Mr. Mulholland, of Brighton, and Mr. Donnelan, of Greece, were the principal contributors in this department, and deserve great credit for their excellent productions.—(*Genesee Farmer*.)

CLINTON COUNTY AGRICULTURAL SOCIETY.—The annual fair was held at Keeseville, N. Y., September 25 and 26.

The exhibition of fruits and flowers was large and fine. The Committee, in their report, say, that "the exhibition of apples was worthy of all praise; superior, it was said, to the late State Fair at Albany. The specimens of other fruits (grown by exhibitors) were not numerous, but of apples the variety was great, and the fruit itself of surpassing excellence. The specimens exhibited were decidedly superior in beauty of form, in fullness of growth, and in most points of excellence, to that grown out of the valley of Lake Champlain.

There were several seedlings exhibited, which gave promise of being excellent fruit. A seedling of the Siberian Crab, of good flavor, and for rich and abundant juice, said to keep six months, was shown us. We never saw larger or more perfect Bartlett pears; never finer Spitzenbergs, Greenings, Russets, Baldwins, Seek-no-further, &c., than here; while, as new varieties, Battey's Northern Sweet and the Bailey Spice, quite surpassed our highest expectations.

The Committee remark that, for much of the interest attached to the pomological department, the Society are indebted to the President of the Massachusetts Horticultural Society, M. P. Wilder, and Hovey & Co., of Boston, C. Downing, Newburg, N. Y., Wilson, Thorburn & Teller, of Albany, and others who made up a collection exhibited by Mr. Battey, amounting to 160 varieties of pears; 125 of apples; 17 of grapes; 14 of plums, &c., the whole number of distinct kinds being 321.

The premiums were awarded as follows :—

FRUITS.—CLASS I.—To J. Battey, for the best exhibition of apples, \$1 and vol. *Horticulturist*. To A. D. Barber, for the best 12 table sorts, \$1 and *Downing's Fruits*. To J. W. Bailey, for the second best, *American Fruit Culturist*. To J. Battey, for the best 6 table sorts, \$1 and *Downing's Fruits*. To J. W. Bailey, 2d, *American Fruit Culturist*. To J. Battey, for the best exhibition of grapes, \$1 and 1 vol. *Hovey's Magazine*. To J. C. Hubbell, Chazy, 2d, *Downing's Fruits*. To J. Battey, for the best hardy variety, (McNeil,) \$1 and Allen on the Grape. To J. C. Hubbell, for the second best, Spooner on the Vine. To J. Battey, for peaches, *Downing's Fruits*. To J. W. Bailey, for the best general exhibition of fruits, *Downing's Fruits*, colored edition.

CLASS II.—To J. Battey, for the best collection of specimen fruits, *Hovey's Fruits of America*, colored plates. To Eliza P. Benedict, for second, *Brown's Trees of America*. To Mrs. J. Battey, for one jar grape jelly, \$1 ; 1 jar pickles, \$1 ; 1 jar preserved apples, \$1.

SOUTHERN IOWA HORTICULTURAL SOCIETY.—The progress of horticulture in the West is best evinced by the exhibitions of the various societies. The number of contributors is greatly on the increase, and the number of varieties exhibited much larger every season. The following account will show the taste for gardening in Iowa :—

The annual exhibition of the Society, held on Thursday and Friday, the 19th and 20th of September, was such as the members may well be proud of. The large hall of the Sons of Temperance was covered with tables loaded down with apples, pears, peaches, grapes, &c., of the most inviting appearance. The effect was still further improved by the addition of flowers and greenhouse plants of every hue and of the most delightful fragrance. Bouquets of rare and beautiful roses, dahlias, verbenas, etc., were distributed through the room in the greatest profusion.

Nor should the more homely and substantial part of the exhibition in the shape of vegetables, be forgotten. We saw many contributions in this line which would do credit to the producers in any market of the east or the west. The sweet potatoes of Mrs. Parriott and of Mr. J. B. Browning, were, in every respect, worthy of commendation. The egg-plant of Robert Gray was the finest we ever saw, and we do not think it could be excelled anywhere. The rhubarb of the Messrs. Neally was large and tender, and deserves special notice. Mr. Davis, of this city, exhibited a new variety of Irish potato, raised from the seed, which, he informed us, were remarkable for their dryness when young, and for withstanding the rot.

The contributors of fruit were very numerous. About one hundred and fifty different varieties of apples were exhibited. Of these Robert Avery, the worthy president of the Society, had sixty-eight varieties ; Mr. J. W. Fell, of Adams Co., Ill., showing fifty varieties ; Rev. A. Leonard, twenty-seven varieties ; Calvin Gamage, twenty-eight varieties ; Joseph Stephens, of Lowell, twenty-six varieties, besides numerous smaller contributors.

Of pears, though the varieties were not numerous, the kinds exhibited were very choice. At the head of the list, we place the Seckel pears exhibited by Joseph Stephens. They were universally admitted to be without any fault. The same gentleman showed the Bartlett rather past its season. The White Doyenné, Long Green and Orange Bergamot, were very fine. The Messrs. Neally showed the Flemish Beauty. J. W. Grimes showed the Beurré Diel, Louise Bonne of Jersey and Soldat Laboureur, all very fine. The president showed the Pound pear, though in reality they were *two pound* pears. Several other varieties were shown by different contributors, the names of which we did not learn.

Peaches were exhibited in great variety and profusion. Where all were so good, it would almost seem invidious to draw any comparison. Those of Robert McClure, L. Cook, A. Leonard, J. W. Grimes and R. Avery, were remarkable for their size and appearance. The peaches of S. M. Clendenin and C. C. Cloutman were generally preferred for their excellent flavor.

The Isabella and Catawba grapes of R. Avery, F. H. Runge, J. Bum-barger and J. W. Woods, were excellent and abundant. Messrs. Bum-barger and Woods exhibited the Cape Grape. Mr. Berry's grape, supposed to be a seedling, was shown in fine condition. Coe's Golden Drop plum was shown by L. Cook, D. Rorer and J. W. Grimes. Cranberries, grown by himself, were shown by Reuben Brackett, of Denmark. Of the flowers exhibited it is impossible for us to do justice. The largest shows were from the gardens of Robert Gray, and from the greenhouse of E. D. Rand.

Premiums were awarded, but we have no room for the list.

WORCESTER HORTICULTURAL SOCIETY.—The eleventh annual exhibition of the Society was held on Wednesday the 18th of September. The Committee report, that they are of the opinion that a finer display of fruit than that which they were called upon to examine, has never been exhibited within the limits of New England, outside of the city of Boston.

They are sorry, however, to be compelled to believe that the attractions of every department of the exhibition might have been greatly increased, had the zeal of many cultivators residing in the immediate vicinity been in any measure equal to their abilities.

Nevertheless the lovers of fruits and flowers may well congratulate themselves upon the measure of prosperity to which the Society has attained; gratifying as it is for the present; encouraging as we hope it may be for the future.

One thing cannot fail to be noticed, that the pomological resources of the Society have wonderfully increased within a comparatively short period of time.

Ten years ago, there were placed upon a few small tables in an obscure room, three or four dozen dishes of apples,—chiefly of the most common varieties; a few plates of pears,—kindly given or reluctantly lent for the occasion by cultivators residing within the territory proper of the Massachusetts Horticultural Society; a score or two of quinces, and *one solitary sample of the peach!*

To make out the attractions of the display, the room itself was decorated with paintings. These and other preparations having been made, the people (counted as easily by scores as by hundreds,) assembled to witness the first regular exhibition held by the Society.

A few years have passed away, and the Society have just held their eleventh annual exhibition. Their large and commodious hall was filled with tables, leaving only passage-ways between them. Upon these were arranged twelve hundred plates of beautiful fruit, all carefully labelled! Beside the members of the society, more than two thousand visitors crowded into the hall to examine and compare the fruits, and to become bewildered by the profusion that surrounded them.

The display of pears alone comprised nearly four hundred plates, containing specimens of not less than seventy varieties!

Of apples, there was a still greater quantity, although the number of known varieties might have been less.

More than thirty varieties of the peach were exhibited, among which were several fine and beautiful seedlings. Although late and in an unpropitious season, the best collection numbered not less than thirteen valuable varieties of the plum,—a cheering evidence that, in despite of black excrescence, the rot, and the curculios, it is not yet time to despair of this favorite fruit.

Of grapes under glass, a single cultivator,—D. W. Lincoln, Esq., of this city,—exhibited nine varieties.

Several specimens of the grape grown in open culture were upon the tables, but they were mostly unripe. There were also fine quinces and other fruits.

There were upwards of one hundred and twenty contributors, principally from the county. The largest collections were from the city as follows:—

D. W. Lincoln, Worcester, pears, 63 varieties; grapes, (grown under glass,) 9 varieties. J. M. Earle, (president of the Society,) pears, 47 varieties; plums, 4 varieties. S. H. Colton, (of Worcester Nursery,) pears, 27 varieties; apples, 52 varieties; peaches, 23 varieties; plums, 13 varieties. Benjamin F. Thomas, pears, between 20 and 25 varieties. Hon. Levi Lincoln, pears, 17 to 20 varieties. Joel Knapp, Sutton, apples, 20 varieties. George A. Chamberlain, Worcester, apples, 25 to 30 varieties. B. N. Child, Worcester, apples, 16 to 20 varieties. Asa H. Waters, Millbury, pears, and other fruits, 33 varieties.

The award of premiums on pears and apples was as follows:—

PEARS.—1. To J. M. Earle, best collection, \$5. 2. To D. W. Lincoln, second best, \$4. 3. To S. H. Colton, third best, \$3. 4. To John C. Mason, best dish of not less than six, (Paradise of Automne,) \$2. 5. To Gardiner Paine, second best, (Louise Bonne of Jersey,) \$1.

APPLES.—1. To S. H. Colton, best collection, \$5. 2. To J. Knapp, Sutton, second best, \$4. 3. To B. N. Child, third best, \$3. 4. To Job C. Stone, best dish of not less than six, (Mother apples,) \$2. 5. To Chester Gorham, Barre, second best, (Hubbardston Nonsuch,) \$1.

PEACHES.—1. To J. H. Allen, best collection, \$4. 2. To Capt. Silas Allen, second best, \$3. 3. To C. J. Parker, third best, \$2. 4. To Asa H. Allen, best dish of not less than 12, (for his splendid Seedlings,) \$2. 5. To W. L. Lewis, Grafton, second best, (Early Crawford,) \$1. 6. To Charles H. Hill, best new seedling peach, \$1.

PLUMS.—1. To S. H. Colton, best collection, \$4. 3. To Ansel Lakin, best dish of plums, \$2. 4. To J. C. Mason, second best (Jefferson,) \$1.

GRAPES.—The splendid specimens from D. W. Lincoln being entered for exhibition only, the Committee awarded the first to Charles Hale, Millbury, best grapes, (grown under glass,) \$2. 3. To Willard Earle, best grapes, of open culture, (Sweetwater,) \$2.

QUINCES.—1. Job C. Stone, best specimen of not less than six, \$2.

GRATUITY.—To Solomon Parsons, for a beautiful plate of High blackberries, \$1.

The whole report, made out by our correspondent, Mr. Jacques, is more interesting than such documents usually are, but we have no space to insert it.—*Ed.*

THE OSWEGO HORTICULTURAL SOCIETY held their annual show on Tuesday, the 17th of September, at the City Hall in Oswego. The show of flowers, greenhouse plants, &c., though not as large as at the July exhibition, was very fine, presenting everything rare and attractive, which the season affords. The fruits and vegetables were in great profusion and variety, and of the finest quality.

The principal exhibitors of fruits were Messrs. Allen and Kline, who had 45 varieties of pears, 18 varieties of apples, &c. Schuyler Warden, 36 varieties of pears, and 25 of apples, &c. J. M. Cusey, 11 varieties of pears, 11 of peaches and 8 of apples. C. S. Phelps, 9 varieties of pears, 6 varieties of apples. J. J. Fort, 13 varieties of apples, peaches, &c. H. Littlefield, 9 varieties of pears, apples, &c.

The contributors of flowers numbered upwards of thirty, principally ladies, and the exhibition, considering the season, was very fine.

ART. IV. *Massachusetts Horticultural Society.*

Saturday, October 26. Exhibited.—**FRUIT:** From W. R. Austin, fine specimens of Catillac, Duchess of Angoulême, Le Cure, Passe Colmar and Bezi de la Motte. From S. Driver, fine Dix pears. From A. W. Stetson, Catawba and Isabella grapes, fine. From O. Johnson, very fine Duchess of Angoulême and Urbaniste pears. From W. Bacon, very fine Beurré Diel and Easter Beurré pears. From W. W. Merrill, fine White Doyenné pears. From S. H. Perkins, White Doyenné pears. From E. Cleaves, Dix and Duchess of Angoulême pears. From J. C. Parkinson, Duchess of Angoulême and Beurré Diel pears. From J. Lovett, fine quinces. From S. Downer, Jr., very fine Urbaniste and Louise Bonne of Jersey pears. From C. E. Grant, fine Isabella grapes. From George Wilson, seedling pears.

From Hovey & Co., Comtesse de Lunay, Henry IV., Beurré Diel, Beurré d'Anjou, Hill's Fall Butter, and White Doyenné pears. From Isaac Hawes, beautiful White Doyenné pears. From S. Needham, B. Hamburgh, and four other sorts grapes. From B. D. Emerson, Black Hamburgh grapes. From H. Vandine, Buffum, Marie Louise, Passe Colmar, Seckel, Heathcot and other pears.

Fruits tested by the Committee: Hall's Down Easton peaches, from J. Owen, excellent. Seedling pear from Marblehead, good size, and promises well. Beurré d'Anjou from Hovey & Co., very fine, as heretofore; Comtesse de Lunay, handsome and good; Comte de Lunay, sugary and excellent. Eyewood from the President, good. Beurré Bosc, Beurré Diel, Urbaniste, Brown Beurré, and other pears, from J. P. Cushing, all excellent. Seedling pear from H. H. Crapo, of ordinary quality; not worthy of cultivation for the table.

November 2.—An adjourned meeting of the Society was held to-day, the President in the chair. [Proceedings in our next number.]

Exhibited.—**FRUITS:** From J. Lovett, Duchess of Angouleme, Eyewood, Beurré Bosc, Urbaniste, Marie Louise, Seckel, Beurré Diel, Fulton, Colmar Niel and Edwards's Elizabeth, all fine; also Boxford apples. S. Downer, Jr., very fine Beurré Diel pears. John Gordon, fine Capiaumont pears and apples without name. S. Driver, Marie Louise pears, fine. E. Brown, Fulton pears. H. Vandine, Seckel, Lawrence, Buffum, Napoleon, Passe Colmar and Marie Louise pears, some of them fine. A. W. Stetson, Isabella grapes. J. Washburn, St. Martin's Quetsche plums, and Fondante de Malines, Napoleon and Edwards's Elizabeth pears, fine. F. Dana, seedling pears, No. 1, called Martha Ann. Hovey & Co., Beurré d'Anjou pears and the Sheldon, from Western New York. B. Guild, beautiful White Doyenné.

Fruits tested by the Committee: Ropes pear from J. F. Allen, pleasant flavor, specimen over ripe. Marie Louise, from H. Vandine, fine quality; Napoleon and Lawrence, good. Vicompte de Spoelberch, from Hovey & Co., good. Napoleon, from J. Washburn, fine. Urbaniste and Beurré Duval pears, from the President, very fine. Seedling pears from F. Dana, called Martha Ann, specimens not quite in eating, but the committee think it a fruit of great promise. From J. Battay, Keeseville, N. Y., Northern Sweet apples, fine.

PREMIUMS AWARDED FOR FRUITS.

FOREIGN GRAPES.—For the best specimens, various kinds, to Hovey & Co., \$10.

For the second best, to T. Needham, \$7.

NATIVE GRAPES.—For the best specimens, (Isabella,) to A. W. Stetson, \$5.

For the second best, (Isabella,) to C. E. Grant, \$3.

NECTARINES.—For the best specimens, (Lewis,) to S. H. Perkins, \$6.

For the second best, (various sorts,) to J. F. Allen, \$4.

A gratuity to W. C. Strong of \$4.

PEACHES.—For the best specimens to G. Merriam, \$6.

For the second best, to J. F. Allen, \$4.

A gratuity of \$4 each to Hovey & Co., and E. King.

PLUMS.—For the best specimens, (Green Gage,) to George Walsh, \$6.

For the second best, (Peach plum and Green Gage,) to J. Mann, \$3.

MUSK MELONS.—For the best, (Christiana,) to E. M. Richards, \$5.

For the second best, (Beechwood,) to Hovey & Co., \$3.

VEGETABLES.—From Jos. Crosby, fine celery, and three superior heads of Royal Cape Lettuce.

November 9. Exhibited.—**FRUITS:** From J. S. Cabot, Nouveau Poiteau, Calhoun, and Dallas pears, and eight varieties of apples. H. Vandine, Glout Morceau, Beurré Diel and Long Rosewater pears. George Walch, Beurré Diel and Le Cure pears. W. C. Strong, six varieties of grapes. J. S. Sleeper, Belle et Bonne de Hee (?) pears. J. Kenrick, Cogswell and Hubbardston Nonsuch apples.

Fruits tested by the Committee: Nouveau Poiteau pears, from J. S. Cabot, of medium size, melting, juicy, and of delicious flavor. Seedling pears, Martha Ann, from F. Dana, overripe, exhibits a tendency to rot at the core. Isabella grapes, from J. F. Allen, raised under glass, nearly destitute of the hard pulp and foxy flavor, fine. Harlburt apple, from S. W. Cole, a good fruit of fine flavor. Fruit of the Purple Guava, from Hovey & Co. Apples from J. M. Earle, among them one called the Peru, very good.

HORTICULTURAL OPERATIONS

FOR DECEMBER.

FRUIT DEPARTMENT.

GRAPE VINES will now be at rest, and if the pruning has not been done, it should be completed at once. As soon as this is finished, clear the vines of all dry bark, and give them a good washing of whale-oil soap, diluted to the thickness of good paint; this will destroy insects of all kinds; the canes should then be laid in horizontally along the front of the house, until they again show signs of swelling their buds.

FRUIT TREES, planted last month, should now be protected by having a barrowful of manure placed around the stem of each tree, in the form of a cone, to keep the frost from penetrating the ground too deep, and, at the same time, enriching the soil.

SCIONS of all kinds of fruit trees may be cut this month and placed in a cool cellar, with the lower ends in earth or sand.

NEWLY PLANTED TREES, in windy places, should be secured by a stake.

PEACH, FIG, AND OTHER FRUIT TREES, in pots, should now be pruned, and washed in the same manner as recommended for grapes; after this is done they should be placed in a cool cellar, where they will be out of the danger of severe cold.

STRAWBERRY BEDS should now be protected with a covering of manure, leaves or straw, if not already done.

FLOWER DEPARTMENT.

JAPAN LILIES, in the open ground, should now be protected with a covering of leaves or manure, sufficient to keep off severe frosts. Common white and other lilies also come up stronger for having a slight covering during winter. Bulbs for flowering in pots may be kept in a cold frame.

HYACINTHS, **TULIPS**, and other similar bulbs, should be protected with a light covering of leaves or manure.

PANSIES set out now, and protected with a frame, will bloom finely in the spring. Seeds may now be sown in pots for planting out next spring.

CARNATIONS AND **PICOTEEES** should now be protected by a covering of leaves, and, if choice kinds, with the additional covering of sashes or boards to keep off the rain and snow.

RANUNCULUS BEDS should now be got in readiness for planting in February or March.

ROSES, taken up and potted last month, should now be headed in, cutting away all small shoots to a good eye. They may be wintered in a cold frame, or be taken into the house, where they will bloom from February to May.

CHINESE PRIMROSES will need another shift this month into larger pots, in which they are to bloom.

OXALISES AND **SPARAXIS**, potted last month, should now have a good place on a shelf near the glass.

PELARGONIUMS will now require to have another shift into the blooming pots; keep them in an airy place near the glass, and nip off the tops of the young shoots to make them bushy plants.

HARDY HERBACEOUS plants of all kinds may have a little old decayed manure or rotten leaves thrown over them, and they will be greatly benefited by it.

CHRYSANTHEMUMS, done blooming, may be wintered in a cold frame or cool cellar.

ACHIMENES of the various sorts may be potted the last of the month for early blooming.

NAPOLITAN VIOLETS, in frames, should be well secured from frost by banking up well, and covering thickly with mats and straw or hay.

MONTHLY PINKS AND **CARNATIONS**, for early blooming, may now be shifted into larger size pots.

CAMELLIAS will now require liberal supplies of water, and occasionally liquid manure or guano; keep the surface of the pots free from moss by occasional top-dressing; syringe the foliage once or twice a week. Cuttings may be put in now, and seeds planted.

CHINESE AZALEAS should now be rather sparingly watered.

RHODODENDRON, **AZALEA** AND **KALMIA SEEDS** may now be sown in pots or boxes.

HYACINTHS may now be potted for spring blooming.

GREENHOUSE PLANTS, of all kinds, will require attention. Many sorts may now be propagated, particularly the hard-wooded kinds; others will require repotting, while others will need tying up, top-dressing, &c. &c. Keep the pots clean by occasional washing.

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